



# JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION

RESHAM GHAR COLONY, BAKSHI NAGAR, JAMMU - 180001

Website: <http://jkpsc.nic.in>

Jammu: 0191-2566533

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**Subject: Written Examination for filling up of Gazetted Vacancies in various Govt. Medical Colleges in Health and Medical Education Department, 2023- Provisional Answer Key(s).**

**Notification No. PSC/Exam/S/2023/77**

**Dated: 04.11.2023**

In pursuance of Rule 10 (c) of the Jammu & Kashmir Public Service Commission (Conduct of Examination) Rules, 2022, as amended upto date, the Provisional Answer Key(s) of Question Papers pertaining to the Written Examination for post(s) of **Assistant Professor in the disciplines of General Surgery, Obsts. & Gynae, Pediatrics, Pathology, Ophthalmology, Physical Medicine & Rehabilitation, Psychiatry, Radio Diagnosis, General Medicine and Blood Bank in Health and Medical Education Department, held on 03.11.2023**, are hereby notified for seeking objections from candidates.

## **Provisional Answer Key Assistant Professor (General Surgery)**

Test Booklet Question No. (Series A)		Test Booklet Question No. (Series A)		Test Booklet Question No. (Series A)	
Q1	B	Q13	A	Q25	C
Q2	D	Q14	C	Q26	B
Q3	D	Q15	A	Q27	B
Q4	A	Q16	C	Q28	B
Q5	A	Q17	B	Q29	A
Q6	C	Q18	A	Q30	B
Q7	B	Q19	D	Q31	C
Q8	B	Q20	A	Q32	B
Q9	A	Q21	A	Q33	D
Q10	B	Q22	B	Q34	B
Q11	D	Q23	D	Q35	D
Q12	C	Q24	B	Q36	D



Test Booklet Question No. (Series A)	
Q37	C
Q38	D
Q39	C
Q40	A
Q41	A
Q42	A
Q43	C
Q44	D
Q45	A
Q46	D
Q47	C
Q48	A
Q49	B
Q50	C
Q51	C
Q52	C
Q53	C
Q54	D
Q55	D
Q56	B
Q57	B
Q58	A

Test Booklet Question No. (Series A)	
Q59	A
Q60	A
Q61	A
Q62	C
Q63	B
Q64	A
Q65	D
Q66	C
Q67	C
Q68	B
Q69	B
Q70	C
Q71	C
Q72	D
Q73	A
Q74	D
Q75	B
Q76	B
Q77	D
Q78	D
Q79	A
Q80	C

Test Booklet Question No. (Series A)	
Q81	D
Q82	D
Q83	C
Q84	B
Q85	B
Q86	B
Q87	A
Q88	D
Q89	B
Q90	B
Q91	D
Q92	B
Q93	A
Q94	B
Q95	C
Q96	C
Q97	A
Q98	D
Q99	C
Q100	D



**Provisional Answer Key Assistant Professor (Obsts. & Gynae)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	A
Q3	C
Q4	B
Q5	D
Q6	B
Q7	C
Q8	B
Q9	C
Q10	A
Q11	C
Q12	B
Q13	A
Q14	D
Q15	C
Q16	D
Q17	A
Q18	B
Q19	D
Q20	A
Q21	B
Q22	A
Q23	C
Q24	D
Q25	C
Q26	A
Q27	D
Q28	A
Q29	C
Q30	D
Q31	A
Q32	C
Q33	B
Q34	A

Test Booklet Question No. (Series A)	
Q35	B
Q36	A
Q37	D
Q38	C
Q39	C
Q40	B
Q41	D
Q42	A
Q43	D
Q44	C
Q45	A
Q46	C
Q47	D
Q48	A
Q49	B
Q50	C
Q51	C
Q52	C
Q53	C
Q54	D
Q55	A
Q56	C
Q57	D
Q58	B
Q59	B
Q60	D
Q61	C
Q62	A
Q63	B
Q64	A
Q65	D
Q66	C
Q67	B
Q68	D

Test Booklet Question No. (Series A)	
Q69	A
Q70	B
Q71	C
Q72	B
Q73	D
Q74	A
Q75	C
Q76	D
Q77	B
Q78	B
Q79	A
Q80	C
Q81	D
Q82	D
Q83	A
Q84	C
Q85	C
Q86	D
Q87	B
Q88	A
Q89	D
Q90	B
Q91	A
Q92	B
Q93	D
Q94	B
Q95	C
Q96	D
Q97	D
Q98	A
Q99	B
Q100	B



**Provisional Answer Key Assistant Professor (Pediatrics)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	C
Q3	B
Q4	D
Q5	A
Q6	B
Q7	C
Q8	D
Q9	B
Q10	A
Q11	D
Q12	A
Q13	D
Q14	D
Q15	D
Q16	C
Q17	C
Q18	C
Q19	B
Q20	B
Q21	C
Q22	C
Q23	A
Q24	B
Q25	C
Q26	D
Q27	A
Q28	C
Q29	D
Q30	D
Q31	C
Q32	D
Q33	C
Q34	C

Test Booklet Question No. (Series A)	
Q35	A
Q36	D
Q37	C
Q38	A
Q39	A
Q40	A
Q41	C
Q42	C
Q43	B
Q44	D
Q45	D
Q46	A
Q47	C
Q48	B
Q49	D
Q50	C
Q51	C
Q52	A
Q53	C
Q54	A
Q55	C
Q56	B
Q57	A
Q58	D
Q59	C
Q60	C
Q61	A
Q62	B
Q63	B
Q64	A
Q65	D
Q66	A
Q67	A
Q68	A

Test Booklet Question No. (Series A)	
Q69	D
Q70	B
Q71	C
Q72	B
Q73	A
Q74	A
Q75	D
Q76	C
Q77	A
Q78	B
Q79	A
Q80	A
Q81	C
Q82	D
Q83	C
Q84	B
Q85	D
Q86	D
Q87	B
Q88	C
Q89	C
Q90	C
Q91	C
Q92	C
Q93	A
Q94	A
Q95	D
Q96	C
Q97	C
Q98	B
Q99	D
Q100	B



**Provisional Answer Key Assistant Professor (Pathology)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	D
Q3	C
Q4	A
Q5	C
Q6	A
Q7	C
Q8	D
Q9	B
Q10	A
Q11	B
Q12	A
Q13	C
Q14	B
Q15	C
Q16	C
Q17	A
Q18	C
Q19	A
Q20	A
Q21	D
Q22	C
Q23	C
Q24	C
Q25	B
Q26	A
Q27	B
Q28	A
Q29	B
Q30	B
Q31	B
Q32	C
Q33	D
Q34	A

Test Booklet Question No. (Series A)	
Q35	B
Q36	B
Q37	C
Q38	C
Q39	D
Q40	C
Q41	B
Q42	A
Q43	C
Q44	B
Q45	B
Q46	A
Q47	B
Q48	B
Q49	B
Q50	A
Q51	C
Q52	C
Q53	C
Q54	A
Q55	C
Q56	C
Q57	A
Q58	C
Q59	C
Q60	C
Q61	B
Q62	B
Q63	B
Q64	B
Q65	B
Q66	B
Q67	B
Q68	D

Test Booklet Question No. (Series A)	
Q69	C
Q70	B
Q71	A
Q72	B
Q73	C
Q74	D
Q75	C
Q76	C
Q77	C
Q78	B
Q79	D
Q80	D
Q81	B
Q82	C
Q83	B
Q84	C
Q85	B
Q86	B
Q87	D
Q88	B
Q89	C
Q90	C
Q91	B
Q92	D
Q93	D
Q94	A
Q95	C
Q96	A
Q97	B
Q98	D
Q99	A
Q100	C



**Provisional Answer Key Assistant Professor (Ophthalmology)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	A
Q3	A
Q4	A
Q5	C
Q6	A
Q7	A
Q8	C
Q9	D
Q10	C
Q11	A
Q12	A
Q13	B
Q14	C
Q15	C
Q16	B
Q17	B
Q18	B
Q19	B
Q20	D
Q21	D
Q22	A
Q23	B
Q24	B
Q25	A
Q26	C
Q27	C
Q28	A
Q29	B
Q30	C
Q31	D
Q32	A
Q33	C
Q34	A

Test Booklet Question No. (Series A)	
Q35	A
Q36	D
Q37	D
Q38	D
Q39	C
Q40	A
Q41	A
Q42	C
Q43	C
Q44	C
Q45	D
Q46	B
Q47	B
Q48	B
Q49	B
Q50	D
Q51	C
Q52	C
Q53	B
Q54	A
Q55	C
Q56	A
Q57	C
Q58	D
Q59	A
Q60	A
Q61	A
Q62	D
Q63	C
Q64	A
Q65	B
Q66	A
Q67	A
Q68	B

Test Booklet Question No. (Series A)	
Q69	C
Q70	C
Q71	C
Q72	D
Q73	D
Q74	B
Q75	B
Q76	D
Q77	D
Q78	A
Q79	C
Q80	C
Q81	D
Q82	B
Q83	A
Q84	A
Q85	A
Q86	A
Q87	C
Q88	A
Q89	A
Q90	B
Q91	A
Q92	D
Q93	A
Q94	D
Q95	A
Q96	A
Q97	A
Q98	D
Q99	A
Q100	B

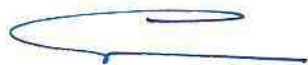


**Provisional Answer Key Assistant Professor (Physical Medicine & Rehabilitation)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	C
Q3	D
Q4	C
Q5	A
Q6	C
Q7	D
Q8	C
Q9	A
Q10	C
Q11	A
Q12	D
Q13	D
Q14	D
Q15	A
Q16	C
Q17	D
Q18	D
Q19	B
Q20	A
Q21	D
Q22	B
Q23	D
Q24	C
Q25	B
Q26	B
Q27	D
Q28	D
Q29	C
Q30	C
Q31	A
Q32	B
Q33	B
Q34	B

Test Booklet Question No. (Series A)	
Q35	A
Q36	D
Q37	C
Q38	B
Q39	B
Q40	C
Q41	C
Q42	B
Q43	A
Q44	A
Q45	C
Q46	D
Q47	B
Q48	D
Q49	A
Q50	A
Q51	D
Q52	C
Q53	D
Q54	B
Q55	B
Q56	C
Q57	C
Q58	D
Q59	B
Q60	A
Q61	B
Q62	B
Q63	C
Q64	D
Q65	C
Q66	D
Q67	D
Q68	C

Test Booklet Question No. (Series A)	
Q69	C
Q70	D
Q71	C
Q72	A
Q73	C
Q74	C
Q75	D
Q76	C
Q77	C
Q78	D
Q79	B
Q80	A
Q81	D
Q82	A
Q83	D
Q84	C
Q85	D
Q86	A
Q87	C
Q88	B
Q89	D
Q90	C
Q91	B
Q92	C
Q93	A
Q94	D
Q95	B
Q96	D
Q97	C
Q98	D
Q99	D
Q100	A



**Provisional Answer Key Assistant Professor (Psychiatry)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	D
Q3	D
Q4	A
Q5	D
Q6	C
Q7	C
Q8	B
Q9	A
Q10	D
Q11	C
Q12	C
Q13	D
Q14	D
Q15	A
Q16	D
Q17	A
Q18	B
Q19	C
Q20	B
Q21	A
Q22	C
Q23	D
Q24	A
Q25	D
Q26	C
Q27	A
Q28	B
Q29	A
Q30	D
Q31	A
Q32	C
Q33	A
Q34	C

Test Booklet Question No. (Series A)	
Q35	C
Q36	A
Q37	D
Q38	C
Q39	C
Q40	B
Q41	D
Q42	C
Q43	C
Q44	C
Q45	A
Q46	A
Q47	C
Q48	B
Q49	C
Q50	C
Q51	D
Q52	D
Q53	C
Q54	B
Q55	B
Q56	C
Q57	A
Q58	D
Q59	A
Q60	D
Q61	C
Q62	C
Q63	D
Q64	D
Q65	C
Q66	A
Q67	D
Q68	C

Test Booklet Question No. (Series A)	
Q69	D
Q70	D
Q71	A
Q72	A
Q73	B
Q74	C
Q75	B
Q76	C
Q77	B
Q78	D
Q79	B
Q80	B
Q81	D
Q82	A
Q83	C
Q84	D
Q85	D
Q86	C
Q87	B
Q88	C
Q89	B
Q90	B
Q91	D
Q92	C
Q93	C
Q94	A
Q95	C
Q96	D
Q97	B
Q98	C
Q99	C
Q100	D





**Provisional Answer Key Assistant Professor (Radio Diagnosis)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	D
Q3	C
Q4	C
Q5	C
Q6	A
Q7	B
Q8	D
Q9	C
Q10	B
Q11	B
Q12	D
Q13	D
Q14	C
Q15	B
Q16	C
Q17	B
Q18	B
Q19	C
Q20	A
Q21	D
Q22	C
Q23	B
Q24	D
Q25	C
Q26	A
Q27	C
Q28	C
Q29	D
Q30	D
Q31	B
Q32	C
Q33	B
Q34	B

Test Booklet Question No. (Series A)	
Q35	C
Q36	D
Q37	C
Q38	D
Q39	B
Q40	D
Q41	C
Q42	A
Q43	B
Q44	A
Q45	A
Q46	C
Q47	A
Q48	D
Q49	A
Q50	A
Q51	C
Q52	B
Q53	D
Q54	B
Q55	D
Q56	C
Q57	C
Q58	C
Q59	A
Q60	C
Q61	C
Q62	C
Q63	C
Q64	A
Q65	D
Q66	A
Q67	B
Q68	A

Test Booklet Question No. (Series A)	
Q69	B
Q70	C
Q71	C
Q72	C
Q73	D
Q74	B
Q75	B
Q76	A
Q77	B
Q78	D
Q79	B
Q80	C
Q81	D
Q82	C
Q83	B
Q84	C
Q85	B
Q86	C
Q87	A
Q88	D
Q89	A
Q90	B
Q91	C
Q92	C
Q93	D
Q94	A
Q95	B
Q96	A
Q97	D
Q98	C
Q99	D
Q100	B

### Provisional Answer Key Assistant Professor (General Medicine)

Test Booklet Question No. (Series A)	
Q1	D
Q2	B
Q3	C
Q4	D
Q5	C
Q6	C
Q7	B
Q8	B
Q9	B
Q10	B
Q11	D
Q12	B
Q13	C
Q14	C
Q15	A
Q16	C
Q17	C
Q18	B
Q19	A
Q20	C
Q21	D
Q22	B
Q23	D
Q24	B
Q25	D
Q26	D
Q27	B
Q28	A
Q29	C
Q30	B
Q31	D
Q32	D
Q33	D
Q34	C

Test Booklet Question No. (Series A)	
Q35	A
Q36	D
Q37	A
Q38	D
Q39	A
Q40	B
Q41	A
Q42	A
Q43	C
Q44	A
Q45	B
Q46	A
Q47	B
Q48	A
Q49	A
Q50	A
Q51	B
Q52	B
Q53	B
Q54	D
Q55	A
Q56	B
Q57	A
Q58	C
Q59	C
Q60	D
Q61	D
Q62	D
Q63	C
Q64	C
Q65	C
Q66	B
Q67	B
Q68	B

Test Booklet Question No. (Series A)	
Q69	D
Q70	A
Q71	A
Q72	B
Q73	A
Q74	C
Q75	D
Q76	B
Q77	B
Q78	D
Q79	B
Q80	B
Q81	C
Q82	D
Q83	D
Q84	B
Q85	A
Q86	D
Q87	D
Q88	A
Q89	D
Q90	C
Q91	A
Q92	D
Q93	D
Q94	D
Q95	A
Q96	C
Q97	A
Q98	A
Q99	A
Q100	D



### **Provisional Answer Key Assistant Professor (Blood Bank)**

Test Booklet Question No. (Series A)	
Q1	B
Q2	B
Q3	A
Q4	A
Q5	C
Q6	C
Q7	B
Q8	B
Q9	A
Q10	C
Q11	B
Q12	B
Q13	C
Q14	C
Q15	A
Q16	C
Q17	D
Q18	C
Q19	A
Q20	B
Q21	C
Q22	B
Q23	A
Q24	B
Q25	A
Q26	C
Q27	D
Q28	A
Q29	B
Q30	C
Q31	B
Q32	B
Q33	A
Q34	A

Test Booklet Question No. (Series A)	
Q35	B
Q36	A
Q37	D
Q38	B
Q39	B
Q40	B
Q41	C
Q42	D
Q43	A
Q44	C
Q45	B
Q46	C
Q47	B
Q48	B
Q49	B
Q50	D
Q51	A
Q52	C
Q53	A
Q54	B
Q55	C
Q56	A
Q57	C
Q58	A
Q59	B
Q60	C
Q61	C
Q62	D
Q63	C
Q64	D
Q65	B
Q66	C
Q67	B
Q68	B

Test Booklet Question No. (Series A)	
Q69	D
Q70	C
Q71	A
Q72	D
Q73	D
Q74	B
Q75	C
Q76	D
Q77	B
Q78	A
Q79	D
Q80	A
Q81	C
Q82	B
Q83	C
Q84	A
Q85	D
Q86	B
Q87	C
Q88	C
Q89	D
Q90	B
Q91	B
Q92	C
Q93	A
Q94	A
Q95	B
Q96	B
Q97	C
Q98	B
Q99	B
Q100	A

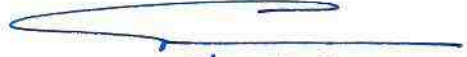


The candidates are advised to refer to **Question Booklet (Series A)** to match the corresponding question(s) in their respective Question Booklet Series and if any candidate feels that the key to any of the question(s) is/are wrong, he/she may represent on prescribed format/proforma annexed as **Annexure-A** along with the documentary proof/evidence (**hard copies only**) and fee of Rs.500/- per question in the form of Demand Draft drawn in favour of **COE, J&K PSC** (refundable in case of genuine/correct representation) to the Controller of Examinations, Jammu & Kashmir Public Service Commission, from 06.11.2023 to 07.11.2023. **The candidates are further advised to clearly mention the question(s) objected to with reference to its serial number as it appears in the Question Booklet of Series A of the provisional answer key(s).**

Further, any objection/application not accompanied by the requisite Demand Draft of Rs.500/- as prescribed, shall not be considered/entertained under any circumstances. Candidates are, in their own interest, advised to adhere to these instructions and not submit any objection unaccompanied by the Demand Draft as required under extant rules.

The Commission shall not entertain any such representation(s) after the expiry of the stipulated period i.e. **after 07.11.2023 (Tuesday), 05.00 pm.**

The provisional answer key(s) are available on the website of the Commission <http://www.jkpsc.nic.in>.

  
04.11.2023

**(G.L. Sharma), JKAS**

Additional Secretary

J&K Public Service Commission



Dated: 04.11.2023

No. PSC/Ex-Secy/2023/61

Copy to the: -

1. Director, Information and Public Relation, J&K for publication of the notice in all leading newspapers published from Jammu/Srinagar.
2. P.S. to Hon'ble Chairman, J&K Public Service Commission for information of the Hon'ble Chairman.
3. P.S. to Hon'ble Member, Shri \_\_\_\_\_ for information of the Hon'ble Member.
4. P. A. to Secretary, J&K Public Service Commission for information of the Secretary.
5. P.A. to Controller of Examinations, J&K Public Service Commission.
6. Main file/Stock file/Notice Board.

**Annexure-A**

Representation regarding objection(s) to any Question/Answer pertaining to the Written Test conducted for the post(s) of Assistant Professor in the disciplines of General Surgery, Obsts. & Gynae, Pediatrics, Pathology, Ophthalmology, Physical Medicine & Rehabilitation, Psychiatry, Radio Diagnosis, General Medicine and Blood Bank, 2023 held on 03.11.2023

**(NOTE: USE SEPARATE FORMS FOR SEPARATE QUESTIONS)**

Discipline : \_\_\_\_\_  
Name of the Applicant : \_\_\_\_\_  
Roll No. : \_\_\_\_\_  
Correspondence Address : \_\_\_\_\_  
Contact/Mobile No. : \_\_\_\_\_  
Date of Application: \_\_\_\_\_ **.11.2023**  
Demand Draft No. date : \_\_\_\_\_  
Candidates Account No.(16 digit) & IFSC Code : \_\_\_\_\_  
\_\_\_\_\_

Question No. in Series A	Details of the Objection	Resource Material (copy to be enclosed)	Details of the Website (if any)
<b><u>Correct Answer/Option as per candidate :</u></b>			



**Signature of the Candidate**

**Note : Application for each question/answer shall be made on separate page in the given format, otherwise the first question entered in the format shall only be considered.**

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **214673**

Test Booklet Series

**TEST BOOKLET  
GENERAL SURGERY  
Written Test - 2023  
(65)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
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**(65) (A)/2023**

**[P.T.O.]**

(65) (A)

(2)

1. Which of the following **is not** a high risk factor venous thromboembolism:
  - A) Major orthopaedic surgery or fracture of pelvis, hip or lower limb
  - B) Major trauma/burns
  - C) Lower limb paralysis
  - D) Major lower limb amputation
  
2. Which of the following is an acquired risk for venous thromboembolism:
  - A) Deficiency of anti-thrombin III
  - B) Factor V laden gene defect
  - C) Activated C protein resistance
  - D) Antiphospholipid antibody or lupus anticoagulant
  
3. Which of the following forms the medial boundary of femoral canal:
  - A) Femoral Vein
  - B) Inguinal Ligament
  - C) Astley Cooper's ligament
  - D) Gimbernat's ligament
  
4. Which of the following is **not true** for tubercular peritonitis?
  - A) Dry, plastic type is most common
  - B) Ascitic fluid has protein >25-30 g/L and, lymphocytes >40%
  - C) Adenosine deaminase activity in ascitic fluid has a high sensitivity and specificity
  - D) Culture of acid fast bacilli takes 4-6 weeks
  
5. According to Chicago Classification 4.0, in the presence of abnormal integrated relaxation pressure (IRP) following is suggestive of type I achalasia cardia :
  - A) 100% failed peristalsis without panesophageal pressurisation (POP)
  - B) 100% failed peristalsis with POP in >20% swallows
  - C) 100% failed peristalsis with >20% swallows with premature contractions
  - D) 100% failed peristalsis with >20% swallows with hypercontractility



6. On upper GI endoscopy in 45 year old male, a suspicious lesion was resected by endoscopic submucosal dissection (ESD), On histopathological examination of specimen, the lesion was reported as squamous cell carcinoma involving muscularis propria with clear margins and without lymphovascular invasion. What should be further course of treatment?
- A) Resection is curative, no further treatment is required
  - B) Esophagectomy without lymph node dissection
  - C) Esophagectomy with lymph node dissection
  - D) Neoadjuvant therapy followed by surgical resection
7. Which incision is given in Sweet esophagectomy?
- A) Single Right posterolateral thoracic incision
  - B) Single left posterolateral thoracic incision
  - C) Right posterolateral thoracic and abdominal incision
  - D) Left posterolateral thoracic and abdominal incision
8. Extended mediastinal lymph node dissection in esophagectomy for carcinoma esophagus includes:
- A) Lymph node stations below the tracheal bifurcation
  - B) Lymph node stations below the tracheal bifurcation and right paratracheal nodes including those around the right recurrent laryngeal nerve.
  - C) Lymph node stations below the tracheal bifurcation and left paratracheal nodes including those around the right recurrent laryngeal nerve.
  - D) All mediastinal lymph nodes above and below the tracheal bifurcation
9. Mutation of which gene can lead to morbid obesity:-
- A) Melanocortin 4 receptor
  - B) Aldehyde dehydrogenase 2
  - C) Cadherin 1
  - D) Cyclin dependant kinase 4
10. In model for end stage (MELD) model survival probability is calculated based on:
- A) International normalised ratio (INR), serum albumin and serum creatinine.
  - B) International normalised ratio (INR), serum bilirubin and serum creatinine.
  - C) International normalised ratio (INR), serum bilirubin and ascites.
  - D) Ascites, serum bilirubin and serum creatinine.

11. Which of the following *is not* true for portal vein embolization

- A) Induces hypertrophy of one side of the liver
- B) Can be done by transileocolic route
- C) Can be done in patients with cirrhosis
- D) Contraindicated in colorectal metastasis

12. Match the types of biliary atresia according to Japanese and Anglo Saxon Classification

Option	Type	Option	Atresia
a	Type I	1	Atresia of common hepatic duct gallbladder, cystic duct and CBD
b	Type IIa	2	Atresia restricted to the CBD
c	Type IIb	3	Atresia of the common hepatic duct with a patent gallbladder and a patent CBD
d	Type III	4	Atresia of the right and left hepatic ducts and the entire extrahepatic biliary tree.

- A) a1, b2, c3, d4
- B) a2, b3, c4, d1
- C) a2, b3, c1, d4
- D) a3, b2, c1, d4

13. Damage control resuscitation (DCR) in a patient who is bleeding is based on following primary principles:

- a) Rapid haemorrhage control
- b) Permissive hypotension
- c) Correction of lactic acidosis
- d) Treating hypokalaemia

- A) a, b
- B) a, c
- C) c, d
- D) b, c

14. Secondary haemorrhage occurs:

- A) 48 hrs after surgery
- B) 3-7 days after surgery
- C) 7-14 days after surgery
- D) >14 days after surgery

15. Which of the following is correct for remodelling stage of wound healing
- A) Begins after 2-3 weeks of injury
  - B) Type I collagen is replaced by Type III collagen
  - C) Glycosaminoglycans and proteoglycans are mainly produced during this phase
  - D) Type II collagen is replaced by Type III collagen
16. National Nosocomial Infections Surveillance (NNIS) score is commonly used to predict
- A) Central line-associated bloodstream infections (CLABSI)
  - B) Catheter-associated urinary tract infections (CAUTI)
  - C) Surgical site infections (SSI)
  - D) Ventilator-associated pneumonia (VAP)
17. Which of the following is not a contraindication to negative pressure wound therapy (NPWT)
- A) Exposed vessels
  - B) Open abdomen
  - C) Untreated osteomyelitis
  - D) Necrotic tissue
18. The tool used to provide dose of ionising radiation during common imaging procedures is:
- A) iRefer
  - B) iRadon
  - C) iRisk
  - D) iRays
19. Diffusion-weighted imaging MRI :
- a) Can differentiate between benign and malignant lesion
  - b) Cannot differentiate between benign and inflammatory condition
  - c) Is based on Brownian motion
  - d) Is based Piezo electric effect
- A) a, b
  - B) a, d
  - C) b, c
  - D) a, c
20. The gene that code for mismatch repair protein is:
- A) PMS2
  - B) PDL4
  - C) SPINK1
  - D) PRSS1

21. A 60 year gentleman, was diagnosed with inoperable metastatic colon carcinoma. On gene analysis of tumour tissue it was found have 'wild type' of KRAS gene. Which of the following drug can be added to chemotherapeutic regime for this patient?
- Cetuximab
  - Bevacizumab
  - Sorafenib
  - Sunitinib
22. The screening marker to identify patients with 'Lynch Syndrome' is:
- Serine threonine kinase
  - Microsatellite instability
  - Mitogen activated protein kinase
  - B catenin
23. Which of the following commercially available kits is not used to detect *Salmonella typhi*?
- MultiTest Dip-S-Ticks
  - Tubex
  - TyphiDot
  - Quantiferron
24. Match the following genes with associated tumour /syndrome
- | Option | Gene  | Option | Tumour/syndrome        |
|--------|-------|--------|------------------------|
| a      | MLH1  | 1      | Cowden Syndrome        |
| b      | STK11 | 2      | Lynch Syndrome         |
| c      | BRCA1 | 3      | Peutz-Jeghers syndrome |
| d      | PTEN  | 4      | Breast Cancer          |
- a1, b2, c4, d3
  - a2, b3, c4, d1
  - a3, b2, c4, d1
  - a3, b2, c1, d4
25. The commonly used system to classify post operative complications is:
- Hannover classification
  - Mattox system
  - Clavien-Dindo system
  - CLASSIC system

26. Which of the following guide lines are followed while reporting systematic review?
- A) CONSORT
  - B) PRISMA
  - C) STROBE
  - D) PROCESS
27. A neonate presented with delayed passage of meconium, abdominal distension and bilious vomiting. What is the most probable diagnosis?
- A) Duodenal atresia
  - B) Hirschsprung's disease
  - C) Annular pancreas
  - D) Mid gut volvulus
28. The main cause of refeeding syndrome in malnourished patient is
- A) Hypoproteinaemia
  - B) Hypophosphatemia
  - C) Hypokalaemia
  - D) Hyponatremia
29. In trauma patient, which is most reliable parameter to decide between early total care (ETC) and damage control surgery (DCS):
- A) Lactate levels
  - B) Bicarbonate levels
  - C) Partial pressure of oxygen (PaO<sub>2</sub>)
  - D) Partial pressure of carbon dioxide (PaCO<sub>2</sub>)
30. 'Talk and die' pattern of deterioration is seen in:
- A) Diffuse axonal injury
  - B) Extradural hematoma
  - C) Acute sub dural hematoma
  - D) Chronic sub dural hematoma

31. A 20 year boy is brought emergency department with history of road traffic accident. On admission his vitals were stable, and he had signs of peritonitis. Plain Xray of chest in erect posture suggested free air under the right dome of diaphragm. No further imaging was done. On exploration, apart from transection in terminal ileum, there was retroperitoneal hematoma below the third part of the duodenum. It was non pulsatile and non-expanding. What surgical procedure should have been done?
- A) Repair of ileal transection  
 B) Repair of ileal transection and drainage of hematoma  
 C) Repair of ileal transection and exploration of hematoma  
 D) Repair of ileal transection and if required, angioembolisation at later stage

32. Match the following triage categories

Option	Colour	Option	Medical need
a	Red	1	Urgent
b	Green	2	Non Urgent
c	Black	3	Immediate
d	Yellow	4	Non salvageable

- A) a4, b3, c2, d1  
 B) a3, b2, c4, d1  
 C) a1, b4, c2, d3  
 D) a4, b3, c2, d1

33. Which of the following structure is not preserved in modified radical neck dissection

- A) The accessory nerve,  
 B) The sternocleidomastoid muscle  
 C) The internal jugular vein  
 D) Level V lymph node group

34. The resectability of carotid body tumour is assessed by

- A) Shumpelick classification  
 B) Shamblin classification  
 C) Katz classification  
 D) Koay classification

35. The most common malignant tumour of salivary glands is

- A) Warthin's tumor  
 B) Carcinoma ex pleomorphic adenoma  
 C) Acinic cell carcinoma  
 D) Mucoepidermoid Carcinoma

36. Total conservative parotidectomy for parotid gland tumour involves
- A) Extracapsular tumour removal
  - B) Removal of tumour with 1 cm of healthy tissue
  - C) Removal of superficial lobe
  - D) Removal of superficial as well as deep lobe
37. Which of the following is true for Riedel's Thyroiditis
- A) Fibrous infiltration is limited to thyroid tissue
  - B) If unilateral, the disease may remain limited to that lobe
  - C) Anaplastic carcinoma is one of the differential diagnosis
  - D) Immunosuppressive agents like cyclosporine helps in disease control
38. A 45 year female reported with complaint of left breast lump. She was advised mammography of both breasts. The lesion in left breast was reported as BI-RADS - 4b. How much are the chances of malignancy?
- A) >2 to <10%
  - B) >95%
  - C) <2%
  - D) > 10 % to <50%
39. According to molecular classification of breast cancer, luminal B tumors are
- A) ER/PR positive, HER2 neu positive, ki 67 high
  - B) ER/PR negative, HER2 neu positive, ki 67 low
  - C) ER/PR positive, HER2 neu negative, ki 67 high
  - D) ER/PR negative, HER2 neu positive, ki 67 high
40. Which of the following is not a component of the eighth edition of the AJCC TNM staging system for breast cancer
- A) Ductal and lobular carcinoma in situ (Tis)
  - B) ER, PR, HER2/neu assessment
  - C) Multigene testing with Oncotype DX®
  - D) Response to neoadjuvant chemotherapy

41. Radiation to axilla is given in which of the following situation:
- A) Pathologically lymph node-positive tumours, after BCS with sentinel lymph node biopsy
  - B) Pathologically lymph node-positive tumours, after BCS with Axillary lymph node dissection
  - C) Pathologically lymph node-negative tumours, after mastectomy with sentinel lymph node biopsy
  - D) Pathologically lymph node-positive tumours, after mastectomy with Axillary lymph node dissection
42. After establishment of cardiopulmonary bypass, myocardium can be protected by-
- a. Intracoronary infusion of a cardioplegic solution
  - b. Infusion of cardioplegic solution via the coronary sinus
  - c. Inducing continuous ventricular fibrillation
  - d. Total cardiac arrest.
- A) a,b
  - B) b,c
  - C) a,d
  - D) b,c
43. The best conduit with >95% patency rate at 10 year, for left anterior descending artery during coronary artery bypass grafting is :
- A) Radial artery
  - B) Long saphenous vein
  - C) Left internal mammary artery
  - D) Dacron graft
44. The most common congenital cyanotic heart disease is:
- A) Patent ductus arteriosus
  - B) Ventricular septal defect
  - C) Total anomalous pulmonary venous drainage
  - D) Tetralogy of Fallot
45. The most widely used score to assess risk of recurrence for cancer breast is
- A) Oncotype Dx (21-gene recurrence score),
  - B) Prosigna PAM-50 (breast cancer prognostic gene signature)
  - C) Mamma Print (70-gene breast cancer recurrence assay).
  - D) Mamma gene score (BRACA gene analysis score)



46. High ankle brachial pressure ( $>1.4$ ) is suggestive of
- Significant arterial stenosis
  - Chronic limb threatening ischaemia
  - Normal vessel
  - Sclerosis/calcification of arterial wall
47. The most commonly used method for foam sclerosant preparation for varicose veins is
- Volman method
  - Brunkwall method
  - Tessari method
  - Eckmann method
48. In case of difficult laparoscopic cholecystectomy, to prevent injury to common bile duct the dissection must be done:
- Ventral (anterior) to R4U line
  - Dorsal (posterior) to R4U line
  - R4U line does not help in safe cholecystectomy
  - Below the Rouvier's sulcus
49. Which of the following statement is true for Trans perineal template biopsies (TPTBP) of the prostate
- Chances of sepsis are more with TPTBP as compared to TRUS-guided prostate biopsy
  - TPTBP indicated in patient with negative TRUS biopsy, but having suspicious PSA levels
  - Anterior part of prostate is difficult to access with TPTBP
  - TPTBP is obsolete these days
50. Which of the following statements are true for renal cell carcinoma (RCC):
- ESR is useful in risk stratification of metastatic disease
  - Involvement of the lymph nodes is associated with a better prognosis than the presence of tumour thrombus in the Inferior Vena Cava.
  - Tyrosine kinase inhibitors improve survival in metastatic RCC
  - Adrenal gland can be spared during radical nephrectomy, if there is no involvement on CT/MRI
- a, c
  - b, c
  - c, d
  - b, d

51.  $\beta$  adrenoceptor agonists are useful in
- A) Bladder outflow obstruction
  - B) Detrusor inactivity
  - C) Overactive bladder
  - D) Overflow incontinence
52. Recurrent Urinary tract infection is defined as
- A)  $\geq 1$  episodes in 1 month
  - B)  $\geq 2$  episodes in 1 month
  - C)  $\geq 2$  episodes in 6 months
  - D)  $\geq 6$  episodes in 12 months
53. Invasive treatment of overactive bladder and urge incontinence in males is:
- a) Percutaneous Peroneal nerve stimulation
  - b) Trans obturator sub-urethral sling
  - c) Percutaneous Tibial nerve stimulation
  - d) Intravesical injection of botulinum toxin A
- A) a, b
  - B) b, c
  - C) c, d
  - D) d, b
54. Primary Sclerosing Cholangitis (PSC)
- a. May involves intra as well as extra hepatic bile ducts
  - b. Involves only intrahepatic bile duct
  - c. Liver transplant in cirrhosis does not improves survival
  - d. Cystic fibrosis transmembrane conductance regulator (*CFTR*) gene mutations can cause PSC
- A) a, b
  - B) b, c
  - C) a, d
  - D) a, c
55. Secondary urinary bladder stones due to bladder outlet obstruction are typically composed of :
- A) Calcium oxalate.
  - B) Calcium phosphate
  - C) Magnesium ammonium phosphate
  - D) Uric acid

56. Penile intraepithelial neoplasia of Glans of penis is known as
- A) Bowen's Disease
  - B) Erythroplasia of Queyrat
  - C) Balanitis xerotica obliterans
  - D) Buschke-Löwenstein tumour
57. Which of the following is true about 'Vanishing testis'
- A) Testis develops but disappears after birth
  - B) Testis develops but disappear before birth
  - C) Most likely cause is anti-spermatocyte antibodies
  - D) It is variety of retractile testis
58. Of the various procedures for varicocele, the lowest recurrence is associated with;
- A) Micro varicocelectomy
  - B) Percutaneous embolization of the gonadal veins
  - C) Laparoscopic ligation of testicular vein
  - D) Palomo procedure
59. Spermatocytic seminoma is
- A) Germ cell tumour
  - B) Variant of seminoma
  - C) Sex cord stromal tumour
  - D) Embryonal carcinoma
60. The 'University of Wisconsin Solution' used for preservation of donor organ is:
- A) Intracellular preservation solution
  - B) Contain high sodium and low potassium ion concentration
  - C) Contain impermeant such as lactobionate and raffinose
  - D) Histidine acts as buffer

61. Which of the following statements are true for HLA typing for organ transplant?
- a) Class I HLA molecules are present on the surface of all nucleated cells
  - b) Class II are only expressed by dendritic cells and B lymphocytes.
  - c) Class I-B mismatches have a more harmful effect than Class II- DR mismatch
  - d) HLA- A, B and DQ are usually typed for organ transplant
- A) a, b  
B) b, c  
C) c, d  
D) c, a
62. Milan criteria for liver transplant in patients with hepato cellular carcinoma is based on
- A) Pre transplant Alpha fetoprotein levels
  - B) Vascular and Neural invasion
  - C) Tumour size and number of lesions
  - D)  $^{18}\text{F}$ -FDG uptake on PET by liver lesions
63. In 'Piggy back' technique of donor liver implantation:
- A) Recipient's retro hepatic IVC is replaced with donor IVC
  - B) Confluence of the three hepatic veins in the recipient is anastomosed with the top end of the donor IVC.
  - C) Side of the donor IVC is joined with the side of the recipient IVC
  - D) Recipient liver is not removed and side of the donor IVC is joined with the side of the recipient IVC
64. In Auxiliary liver transplantation
- A) Graft is implanted after removal of part of recipient liver
  - B) Deceased donor liver is split into two
  - C) Is dual-graft liver transplantation
  - D) Liver from a patient with metabolic disease is transplanted into a patient with end-stage liver disease
65. In pancreas transplant procedure, donor duodenum **is not** anastomosed to
- A) Roux en Y limb of Jejunum
  - B) Jejunal loop
  - C) Urinary bladder
  - D) Stomach

66. Which of the following is an indication of surgery for adrenal incidentaloma :
- A) Density <10 HU on non-contrast CT scan
  - B) Density <10 HU on contrast enhanced CT
  - C) Density >10 HU on non-contrast CT scan
  - D) Density >10 HU on contrast enhanced CT
67. In transverse abdominis plane (TAP) block, local anaesthetic agent is given in plane between:
- A) Transverse abdominis muscle and fascia transversalis
  - B) Fascia transversalis and peritoneum
  - C) Transverse abdominis muscle and internal oblique muscle
  - D) Above as well as below transverse abdominis muscle surface
68. Metabolic abnormalities in gastric outlet obstruction are:
- A) Hyperchloremic acidosis
  - B) Excretion of potassium and hydrogen ions
  - C) Hypercalcaemia
  - D) Paradoxical chloride excretion
69. Which classification system is used for advanced carcinoma of stomach:
- A) Lauren classification
  - B) Borrmann classification
  - C) Amsterdam classification
  - D) Barr classification
70. Prophylactic cholecystectomy in asymptomatic patients **is not** indicated in :
- A) Anomalous pancreatic ductal drainage
  - B) Sickle cell disease
  - C) Single gall bladder polyp 5mm in size
  - D) Organ transplantation

71. According to Tokyo guidelines for the management of acute cholecystitis which of the following is poor prognostic factor
- A) Favourable Organ failure
  - B) Charlson Comorbidity index <4
  - C) Serum creatinine >2.0mg/dl
  - D) PaO<sub>2</sub>/FiO<sub>2</sub> ratio >300

72. Match the type of bile duct injury according to Strasberg Classification:

Option	Type	Option	Injury
a	Type A	1	An occluded right posterior sectoral duct
b	Type B	2	A bile leak from the main bile duct without any major tissue loss
c	Type C	3	A bile leak from the divided right posterior sectoral duct
d	Type D	4	A bile leak from the minor biliary radical in the gallbladder fossa

- A) a1, b2, c4, d3
- B) a2, b3, c1, d4
- C) a4, b3, c2, d1
- D) a4, b1, c3, d2

73. The commonest site of cholangiocarcinoma is
- A) Confluence of right and left hepatic duct
  - B) Distal end of common bile duct
  - C) Supraduodenal part of common bile duct
  - D) Intrahepatic cholangiocarcinoma

74. Which of the following **is not** component of Rigler's triad:

- A) Partial or complete intestinal obstruction
- B) Pneumobilia
- C) Aberrant rim calcified or total-calcified gallstone
- D) Change in the position gallstone on serial films

75. On USG which of the following features are suggestive of difficult cholecystectomy;

- a. Thick-walled gallbladder (wall 2mm in thickness)
  - b. Portal Hypertension
  - c. Mirizzi's syndrome
  - d. Distended gall bladder with multiple stones
- A) a, b
  - B) b, c
  - C) a, c
  - D) c, d

76. When the residual CBD stone is removed through tract of T-tube the procedure is called:
- Durram procedure
  - Burhenne procedure
  - Liway procedure
  - Warren procedure
77. CECT of the abdomen in patients with diagnosed as having acute pancreatitis to determine the extent of necrosis is done
- Immediately on arrival to emergency department
  - Within 12 hrs
  - Within 24 hrs
  - After 72 hrs
78. To differentiate between cyst neoplasm and pseudocyst of the pancreas, fluid should be aspirated from cystic lesion and sent for all **except**:
- Fluid amylase
  - Carcinoembryonic antigen assay
  - Cytology
  - Cancer antigen 125
79. Which of the following tumors have highest potential for malignant transformation:
- Mucinous cystadenomas
  - Serous cystadenomas
  - Solid pseudopapillary neoplasm
  - Papillary cystic neoplasm
80. A 45 year gentleman on investigation for pain upper abdomen was found as having pancreatic head mass. On CECT the mass was found in the uncinata process and was in contact with superior mesenteric artery ( $\leq 180$ ). There was no involvement of any other surrounding structure. Which of the following statements are true:
- It is considered as resectable tumour
  - Treatment is pylorus preserving pancreaticoduodenectomy(PPPD)
  - It is a borderline resectable tumour
  - Treatment is neoadjuvant therapy followed by surgery
- a, b
  - b, c
  - c, d
  - a, d

81. A 60 year gentleman is diagnosed with alcohol induced acute pancreatitis. On CECT, done on 5<sup>th</sup> day, there was 8x10cm acute necrotic collection, with 50 % necrosis of pancreatic parenchyma. The best option for this patient is:
- A) Surgical necrosectomy  
 B) USG guided drainage of collection  
 C) Video assisted retroperitoneal debridement  
 D) Supportive care (Intravenous fluids, Enteral/Parenteral nutrition, Antibiotics)
82. In approximately 20% of cases, the mucosa of a Meckel's diverticulum can contain heterotopic epithelium of all, **except:**
- A) Colonic  
 B) Pancreatic type  
 C) Stomach  
 D) Urinary bladder
83. Mayo score in ulcerative colitis provides a useful tool for measuring disease progression or response to treatment. It does not include:
- A) Stool frequency  
 B) Rectal bleed  
 C) Presence of Extra intestinal manifestation  
 D) Global assessment
84. Match following scoring systems with the disease process they are related to :

Option	Scoring system	Option	Disease process
a	Eckardt Symptom Score	1	GERD
b	DeMeester score	2	Organ dysfunction
c	Modified Marshall score	3	Achalasia cardia
d	Balthazar score	4	Acute pancreatitis

- A) a1, b3, c4, d2  
 B) a3, b1, c2, d4  
 C) a3, b1, c4, d2  
 D) a1, b3, c2, d4



85. Which of the following is not an indication of surgery in ulcerative colitis?
- A) Growth retardation in children
  - B) An attack of severe colitis requiring steroids for remission
  - C) Associated sclerosing cholangitis
  - D) Extraintestinal manifestations
86. The best results in Pseudomyxoma peritonei are achieved with:
- A) Cytoreductive surgery
  - B) Cytoreductive surgery with Hyperthermic intraperitoneal chemotherapy (HIPEC)
  - C) HIPEC alone
  - D) Systemic chemotherapy using monoclonal antibody (tofacitinib, a JAK (Janus kinase) inhibitor)
87. Which of the following **is not true** about Intussusception
- A) In adults, 30%-40% are associated with a lead point
  - B) On CT scanning the target sign may be seen
  - C) Peak incidence in children is between 5 and 10 months of age
  - D) The sheath or outer tube is called intussusciens
88. Which of the following procedure **is not** done for rectal mucosal prolapse:
- A) Excision of redundant mucosa
  - B) Endoluminal stapling excision
  - C) Delorme's procedure
  - D) Altemeier's procedure
89. Which of the following is an indication of completion colectomy after endoscopic excision of malignant colonic polyp:
- A) Haggitt level 2 pedunculated polyp
  - B) Kikuchi level Sm3 sessile polyp
  - C) Well differentiated lesion
  - D) In malignant polyp, completion colectomy should always be done

90. Which criteria is used to identify patients requiring Microsatellite Instability (MSI) testing to identify Lynch Syndrome
- A) Montreal Criteria
  - B) Bethesda criteria
  - C) Prague criteria
  - D) Nottingham criteria
91. Transanal mesorectal excision (TaTME):
- A) Done for total mesorectal excision of recto sigmoid growth
  - B) Total mesorectal excision is done by anal approach only
  - C) Rectal tumour in lower of rectum is removed by anal approach only
  - D) Total mesorectal excision for rectal tumour is done by combined anal and abdominal approach
92. A 60 year, renal transplant patient reported with small ulcerated lesion at the anal verge. The histopathological examination from the lesion confirmed it to be anal intraepithelial neoplasm. What should be done further?
- A) Should be treated like anal squamous cell cancer
  - B) Immune modulators like imiquimod, podophyllin, or 5-FU helps in resolution
  - C) Abdomino perineal resection should be done to improve survival
  - D) Being variant of melanoma, systemic chemotherapy (Decarbazine) as neoadjuvant therapy should be given
93. Which of the following **is not** Vit K dependant cofactors?
- A) Factor VIII
  - B) Factor II
  - C) Protein C and Protein S
  - D) Factor X
94. Early stage chronic pancreatitis is accurately diagnosed by :
- A) C- reactive protein
  - B) Endoscopic ultrasound
  - C) Contrast Enhanced CT
  - D) MRI of abdomen

95. According to WHO Informal Working Group on Echinococcosis (WHO-IWGE) ultrasound classification, mixed hypoechoic and hyperechoic features like a bag of wool appearance is suggestive of :
- A) Live cyst
  - B) Dead cyst
  - C) Inactive/degenerative cyst
  - D) Transitional cyst
96. A 40 year lady presented with lump in the right breast for 2 months. On inspection except for peau d orange appearance in nipple areola region, there was no abnormality. On palpation, there was hard 4 cm x 4cm lump below the areola and it was not fixed to underlying structures. No lump was palpable in axilla. There was no history of any trauma or drug intake. If it is breast carcinoma, the clinical stage of the tumour is :
- A) cT2N0M0
  - B) yT2N0M0
  - C) cT4bN0M0
  - D) cT4aN0M0
97. Inokuchi left gastric-vena cava shunt (interposition of a vein graft between the left gastric (coronary) vein and Inferior vena cava in portal hypertension is type of :
- A) Selective shunt
  - B) Non selective shunt
  - C) Total shunt
  - D) Conventional spleno renal shunt
98. The '4 D's' of glucagonoma syndrome does not include :
- A) Diabetes
  - B) Dermatitis
  - C) Deep vein thrombosis
  - D) Dementia

99. Which of the following gastric lymphoma responds to H. Pylori treatment:

- A) Diffuse large B cell lymphoma
- B) T-cell lymphoma
- C) Mucosa-Associated Lymphoid Tissue Lymphomas
- D) Mantle cell follicular lymphomas

100. 'Wild GIST' have mutation of following gene:

- A) CD117
- B) CD34
- C) Platelet derived growth factor receptor alpha (PDGFRA) receptors gene
- D) Absence of mutation of tyrosine kinase c-KIT gene and PDGFRA gene

# ROUGH WORK

AL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **214853**

Test Booklet Series

**TEST BOOKLET**  
**OBSTETRICS AND GYNAECOLOGY**  
**Written Test - 2023**  
**(66)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

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3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.   
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4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
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  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
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**(66) (A)/2023**

**[P.T.O.]**



1. Match the following:

- |                            |   |
|----------------------------|---|
| a. Absolute Risk Reduction | 1. The percentage of reduction in the risk comparing the unexposed (control) group to the exposed (treatment) group |
| b. Relative Risk Reduction | 2. Among the people who have the outcome, this is the proportion who have a positive test                           |
| c. Sensitivity             | 3. Among the people who do not have the outcome, this is the proportion who have a negative test                    |
| d. Specificity             | 4. Difference in risk between the unexposed (control) group and the exposed (treatment) group                       |

**Choose the correct answer:**

- A) a-3, b-4, c-1, d-2
- B) a-4, b-1, c-2, d-3
- C) a-2, b-1, c-4, d-3
- D) a-4, b-3, c-1, d-2

2. Percentage of infants born with some abnormality of the genitourinary system:

- A) 10
- B) 1
- C) 5
- D) 20

3. Various events in fetal development include the following

- 1. Formation of sinuvaginal bulbs
- 2. Canalisation of vaginal plate
- 3. Urorectal septum
- 4. Development of vaginal vestibule

**Choose the correct sequence:**

- A) 4, 3, 2, 1
- B) 2, 1, 4, 3
- C) 3, 1, 4, 2
- D) 1, 3, 2, 4



4. Which of the following are part of pelvic diaphragm:

1. Sphincter urethrae
2. Pubococcygeus
3. Deep transverse perineal
4. Levator ani

**Choose the correct answer:**

- A) 3
- B) 2, 4
- C) 1, 3
- D) 1, 2

5. Which are the branches of external iliac femoral artery?

1. Superficial epigastric artery
2. Superficial circumflex artery
3. Superficial gluteal artery
4. Inferior epigastric artery
5. Umbilical artery

**Choose the correct answer:**

- A) 3, 5
- B) 1, 3, 4
- C) 1, 2, 3
- D) 1, 2, 4

6. Aortic and paraaortic nodes get primary afferent connections from all except:

- A) Fallopian tubes
- B) Upper vagina
- C) Upper uterine corpus
- D) Common iliac

7. Match the following:

Treponemal Test	VDRL or RPR	TPPA	
a Reactive	Nonreactive	Reactive	1. Untreated syphilis
b Reactive	Nonreactive	Reactive	2. Prior treated syphilis
c Reactive	Nonreactive	Nonreactive	3. Treated syphilis with persistent titers OR active syphilis
d Reactive	Reactive		4. Falsepositive treponemal test

**Choose the correct answer:**

- A) a-2, b-4, c-3, d-1
- B) a-4, b-1, c-2, d-3
- C) a-2, b-1, c-4, d-3
- D) a-4, b-3, c-1, d-2

8. Which out of the following grows in lower pH?

- A) Bacterial vaginosis
- B) Candidiasis
- C) Trichomoniasis
- D) Aerobic vaginitis

9. Which of the following is not true about pipelle endometrial aspiration biopsy?

- A) 2-3 insertions are performed for obtaining adequate sample.
- B) Vagal response can be seen following device insertion.
- C) Cancer detection failure rate is reported to be around 7%
- D) Limitation of device is inability to access the cavity.

10. Which of the following does not predispose to AV- Malformation?

- 1. Congenital aetiology
- 2. Use of IUCD
- 3. Ovarian cancer
- 4. Cervical cancer
- 5. Gestational trophoblastic disease

**Choose the correct answer:**

- A) 3
- B) 3, 4
- C) 1, 4
- D) 2, 5

11. Which of the following is not recommended for medical treatment of acute AUB?

1. CEE 2.5 mg Q 6hourly
2. MPA 10 mg Q 4 hourly
3. NETA 10 mg Q 4 hourly
4. DMPA 150 mg I/M stat
5. Ormifloxifene 30 mg Q 6 hourly
6. TXA 1.3 g Q 8 hourly

**Choose the correct answer:**

- A) 1,2
- B) 3, 4
- C) 4, 5
- D) 2, 5

12. In which of the following are not a contraindication for endometrial ablation?

1. Women at risk of endometrial cancer
2. Acute pelvic infection
3. Previous lower segment caesarean section
4. Postmenopausal women
5. Prior classical caesarean delivery
6. Large endometrial cavity

**Choose the correct answer:**

- A) 1, 3, 4
- B) 1, 3
- C) 2, 4, 5
- D) 2, 5

13. If fibroid is the cause of infertility in a woman who wish to conceive, which of the following drug can be given for treatment:

- A) GnRH agonist
- B) COC
- C) DMPA
- D) Ulipristal

14. What is not true about fibroid uterus?

- A) 1-3 % cases of infertility are solely due to fibroids
- B) LNG expulsion rates are in the range of 10-15%
- C) GnRH agonist cause mean decline in uterine volume of 35-50%
- D) After GnRH agonist administration, flare phase lasts for 3-4 weeks

15. Reed syndrome consists of:

- 1. Colon cancer
- 2. Cutaneous leiomyoma
- 3. Ovarian cancer
- 4. Uterine leiomyoma
- 5. Uterine cancer
- 6. Renal cell cancer

Choose the correct answer:

- A) 1, 2, 4
- B) 1, 3, 5
- C) 2, 4, 6
- D) 1, 5, 6

16. Which is common factor in both RMI and ROMA for predicting ovarian cancer?

- 1. HE 4
- 2. CA 125
- 3. Menopausal status
- 4. Sonographic score

Choose the correct answer:

- A) 2, 3
- B) 1, 2
- C) 1, 4
- D) 2, 3

17. Which of the following is not included in ASRM scoring of endometriosis?
- A) Intestine
  - B) Ovaries
  - C) Peritoneum
  - D) Cul de sac
18. CT scan plays limited role for endometriosis of which type?
- A) Thoracic
  - B) Small implants
  - C) Abdominal wall
  - D) Ureteric
19. If endometriosis is suspected in a woman with CPP, which of the following is a true statement:
- A) Initial regimen may be NSAIDS combined with COCs / Progestins
  - B) Diagnostic laparoscopy cannot be the first step
  - C) GnRH agents may be stated initially
  - D) Medical treatment provides long term relief
20. Which of the following characteristic of a breast lump is not suggestive of malignancy?
- A) Solid mass with microcalcifications
  - B) Solid mass with internal echoes
  - C) Solid mass with irregular margins
  - D) Width to height ratio  $< 1.7$
21. Triple test for breast lesion assessment includes all except:
- A) Needle biopsy
  - B) Self-breast examination
  - C) Imaging
  - D) Clinical breast examination

22. Match the following related to increase in relative risk of breast cancer in relation to the various risk factors mentioned below:

	Risk factor		Increased relative risk
a	Female gender	1.	2.5
b	BRCA 1, BRCA 2	2.	1.5- 1.8
c	Breast cancer in mother, sister	3.	114
d	Nulliparity	4.	1.2- 1.7
e	Cowden genetic syndrome	5.	1.2- 1.5
f	5 years of combined HRT	6.	30

**Choose the correct answer:**

- A) a-3, b-6, c-2, d-5, e- 1, f- 4  
B) a-6, b-1, c-4, d-3, e- 2, f- 5  
C) a-2, b-5, c-1, d-6, e-3, f- 4  
D) a-5, b-4, c-1, d-2, e- 6, f- 3
23. Frequency of unintentional cystotomy associated with LH ranges from:
- A) 0.1 to 0.5%  
B) 5.4 to 8.3 %  
C) 0.4 to 3.2%  
D) 10.4 to 15.8%
24. Peripheral nerve injury during laparoscopy are increased by following factors, except:
- A) Poor positioning of the patient,  
B) Excessive pressure exerted by the surgeons,  
C) During port placement  
D) Positioning the patient in lithotomy while she is awake
25. What is the most appropriate suture material to repair the anorectal mucosa in a fourth-degree perineal tear?
- A) 1-0 Polydioxanone (PDS)  
B) 3-0 Polyglactic 910 (Vicryl rapide)  
C) 4-0 Polyglactin (Vicryl)  
D) 3-0 Polyglecaprone (Monocryl)

26. How much weight loss can reduce the bioavailable or calculated free testosterone level significantly and restore ovulation and fertility in more than 75% of women:
- A) 5% to 7% over a 6-month period
  - B) 10- 15% over a 6-month period
  - C) 2% to 4% over a 6-month period
  - D) 20% to 27% over a 6-month period
27. For an obese woman with no co-morbidities with inability to reduce her weight in spite of all efforts, what is the threshold BMI where bariatric surgery should be considered?
- A) 32 kg/m<sup>2</sup>
  - B) 35 kg/m<sup>2</sup>
  - C) 38 kg/m<sup>2</sup>
  - D) 40 kg/m<sup>2</sup>
28. For most diagnostic and many operative procedures, most effective uterine anaesthesia permitting the hysteroscopy to be done in an office procedure room.
- A) Administration of a paracervical anaesthetic block
  - B) Instillation of local anaesthetic gel into the cervical canal
  - C) Oral opiate analgesia 1 hour before the procedure
  - D) Use of conscious sedation
29. A woman following a transcervical resection of the endometrium (TCRE) for heavy menstrual bleeding is complaining of nausea, vomiting and confusion. Intraoperative fluid deficit was 1.7 litre. What is the single most important investigation?
- A) Chest X-ray
  - B) Complete blood count
  - C) Serum urea and electrolytes
  - D) Ultrasound of the pelvis
30. Squamous cell carcinoma of the vulva initially spreads to which group of lymph nodes?
- A) External iliac
  - B) Femoral
  - C) Internal iliac
  - D) Inguinal

31. Which is false statement about metastatic ovarian tumors?
- A) Adenocarcinoma endometrium spreads to the ovaries in about 15% of cases
  - B) Primary tumor is frequently located in the stomach
  - C) Incidence is around 5%
  - D) Tubal carcinoma involves the ovaries secondarily in 13% of cases
32. Which of the following is not required to define the Chronic pelvic pain (CPP):
- A) Pain of greater than 3-6 months in duration,
  - B) Localized to the anatomic pelvis,
  - C) Confirmation of cause by direct visualisation and laparoscopy is gold standard,
  - D) Sufficiently severe to cause functional disability or necessitate medical care.
33. The most common findings noted at the time of laparoscopy for CPP is/ are:
- A) Pelvic inflammatory disease
  - B) Endometriosis
  - C) Ovarian cysts,
  - D) uterine leiomyomas encroaching on supporting ligaments
34. which of the following is not the associated with premature ovarian failure:
- A) Kallmans Syndrome
  - B) Absence of one X chromosome
  - C) Fragile X mental retardation 1 premutation
  - D) Galactosemia
35. Which of the following does not cause poor semen quality:
- A) Cystic fibrosis
  - B) Moderate alcohol intake
  - C) Testosterone intake
  - D) Varicocele



36. Which of the following statement is false:
- A) Exogenous testosterone therapy is recommended in the treatment of male subfertility
  - B) Artificial insemination is used to treat unexplained infertility
  - C) Artificial insemination is used to treat male factor infertility
  - D) Ideally, the total motile sperm count in the IUI specimen should be 5-10 million or more
37. Indications of Intracytoplasmic Sperm Injection are all, except:
- A) Semen analysis shows <2 million motile sperm
  - B) Semen analysis shows <5% motility
  - C) Surgically recovered sperms
  - D) Same sex female couples
38. Match the following for the incidence of various health issues in postmenopausal women:
- | Health concern                         | Incidence |
|--|-----------|
| a. Sexual dysfunction                  | 1. 75 %   |
| b. Genitourinary syndrome of menopause | 2. 66 %   |
| c. Osteoporosis                        | 3. 50%    |
| d. Vasomotor symptoms                  | 4. 40%    |
- Choose the correct answer:**
- A) a-2, b-4, c-3, d-1
  - B) a-4, b-1, c-2, d-3
  - C) a-4, b-3, c-2, d-1
  - D) a-3, b-4, c-1, d-2
39. Which of the following statement is incorrect about combined oral contraceptive pills:
- A) To begin OC use, the user takes the first pill any time from the first day of menses through the Sunday after menstruation begins
  - B) Ovarian follicles mature more during the 7- day medication-free interval than during the 4-day interval
  - C) New 24/4 combination is proven to be more effective in preventing pregnancy than the 21/7 combination
  - D) The progestin component does the real contraceptive "work"

40. Which one of the following is correct statement regarding emergency contraception following an unprotected sexual intercourse:
- A) Copper IUCD insertion is effective provided it is inserted not more than 5 days after known ovulation.
  - B) Levonorgestrel is effective only when taken before ovulation.
  - C) No oral medication exists if >72 h elapsed from unprotected intercourse.
  - D) Tablet methods are more effective than copper-IUCD at preventing pregnancy.
41. Which one of the following is an appropriate method of contraception after evacuation of a complete molar pregnancy one week ago.
- A) Barrier contraceptives should be used as they have a low failure rate.
  - B) Combined oral contraceptive pills are absolutely contraindicated for her.
  - C) Combined oral contraceptive pills can be started if hCG levels show a decreasing trend.
  - D) Intrauterine devices should not be used till hCG levels are normal.
42. Which of the following statement is incorrect about endometrial cancer:
- A) 15-20% of women diagnosed with endometrial cancer are asymptomatic
  - B) 5% of cases are found in women under the age of 40.
  - C) 10% of cases have a hereditary basis
  - D) 3% to 5% of endometrial cancers can be attributed to Lynch syndrome
43. All of the following statements about hereditary ovarian cancer are true, except:
- A) 15% of women with high-grade nonmucinous ovarian cancers have germline mutations in BRCA1/BRCA2
  - B) 40% of these women do not have a family history of breast/ovarian cancer
  - C) The mutations are inherited in an autosomal dominant fashion
  - D) Prophylactic salpingo-oophorectomy reduces the risk of BRCA-related gynecologic cancer by up to 80 %
44. The recommended first line of treatment for Lichen sclerosus is:
- A) Antifungals
  - B) Local conjugated estrogen cream
  - C) Ultrapotent topical corticosteroids
  - D) Local anaesthetic creams

45. The commonest high-risk HPV type found to be associated with vulval carcinoma and vulval intraepithelial carcinoma is:
- A) HPV16
  - B) HPV 11
  - C) HPV33
  - D) HPV18
46. In staging of vulvar carcinoma, a tumour of any size, with or without extension to adjacent perineal structures, and with more than three positive inguinofemoral nodes is: A.
- A) Stage II
  - B) Stage IIIA
  - C) Stage IIIB
  - D) Stage IIIC
47. All of the following about adenocarcinomas of the cervix are true except:
- A) Adenocarcinomas account for 17- 27 % of cervical cancers.
  - B) They are likely to be diagnosed in younger women.
  - C) They are associated with delay in diagnosis compared to their squamous counterparts.
  - D) Intraepithelial or invasive squamous neoplasia occurs in up to 5 % of cervical adenocarcinomas

48. Match the following histological features with the correct diagnosis:

Histopathological feature	Type of ovarian tumor
a. Call-Exner bodies	1. Teratoma
b. Schiller-Duval body	2. Signet-ring appearance
c. Neural tube-like structure	3. Granulosa cell tumor
d. Meatstatic tumor	4. Yolk sac tumor

**Choose the correct answer:**

- A) a-3, b-4, c-1, d-2
- B) a-4, b-1, c-2, d-3
- C) a-4, b-3, c-1, d-2
- D) a-2, b-4, c-1, d-3

49. Vault prolapse can be prevented at the time of vaginal hysterectomy by:
- A) Cruikshank's closure
  - B) McCall culdoplasty
  - C) Burch colposuspension
  - D) Moschowitz procedure
50. A 65 years old lady with history of hysterectomy 5 years ago, presents with the complaint of a feeling of bulge per vaginum. On examination as per POP- Q quantification, which point corresponds to the vaginal vault:
- A) Aa
  - B) Ba
  - C) C
  - D) Ap
51. Which is the preferred time period in pregnancy for surgical removal of an ovarian mass:
- A) 8-10 weeks
  - B) 12 weeks
  - C) 14-20 weeks
  - D) 22-24 weeks
52. A 23-year woman has hyperemesis gravidarum in early pregnancy. What replacement I/V fluid should be given for her out of the following:
- A) Intravenous potassium chloride 0.3% with glucose 5% solution
  - B) ORS Solution
  - C) Intravenous potassium chloride 0.3% with sodium chloride 0.9% solution
  - D) Oral potassium bicarbonate 500 mg with potassium acid tartrate 300 mg
53. Female Genital Mutilation is not associated with which of the following:
- A) Raised perinatal morbidity rates
  - B) Prolonged labor,
  - C) Antepartum hemorrhage
  - D) Postpartum hemorrhage

54. Which of the following is false about infection prevention antibiotic prophylaxis for the caesarean delivery?
- A) Single IV dose of a  $\beta$ -lactam antibiotic
  - B) Additional doses are considered in cases with blood loss >1500 mL
  - C) with duration longer than 3 hours.
  - D) Additional doses are required for weights  $\geq$  80 kg
55. What is the most common type of postoperative infection following an emergency caesarean section?
- A) Endometritis
  - B) Lower respiratory tract infection
  - C) Upper respiratory tract infection
  - D) Urinary tract infection
56. Which of the following is not true statement to define Late maternal death:
- A) Death of a woman from direct obstetrical causes
  - B) Death of a woman from indirect obstetrical causes
  - C) More than 2 weeks but less than 3 months after the pregnancy's end
  - D) More than 42 days but less than 1 year after the pregnancy's end
57. Which of the following is not an indicator of severe Maternal Morbidity:
- A) Cardiac surgery
  - B) Intracranial injuries
  - C) Sickle-cell crisis
  - D) Blood component transfusion
58. Primary source of blood supply to the posterior vaginal wall is which of the following:
- A) Uterine artery
  - B) Middle rectal artery
  - C) Hypogastric artery
  - D) Internal pudendal artery

59. Choose the correct anatomic progression of the fallopian tube from proximal to distal?

1. Isthmus
2. Ampulla
3. Infundibulum
4. Interstitial

**Options are:**

- A) 1, 4, 2, 3
- B) 4, 1, 2, 3
- C) 3, 2, 4, 1
- D) 2, 3, 1, 4

60. During ultrasonography, the fetus is found to have bladder exstrophy. This anomaly originates from premature rupture of which of the following structure:

- A) Yolk sac
- B) Mesonephros
- C) Müllerian duct
- D) Cloacal membrane

61. Which of the following statement is false about metabolic changes in pregnancy:

- A) By the third trimester, maternal basal metabolic rate rises by 20% compared with that of the nonpregnant state
- B) Extra water retained during normal pregnancy is approximately 6.5 L
- C) Amino acid concentrations are higher in the maternal than in the fetal compartment
- D) After a glucose meal, there is prolonged hyperglycaemia and hyperinsulinemia

62. Which of the statement is correct about the changes in respiratory physiology during pregnancy:

- A) Inspiratory capacity rises by 5-10%.
- B) Respiratory rate increases.
- C) Tidal volume remains the same.
- D) Functional residual capacity decreases by approximately 50%.

63. Oocyte is available for fertilisation till how many hours after the ovulation:

- A) 12
- B) 24
- C) 48
- D) 72

64. Various components of fetal circulation are as below:

- 1. Ductus arteriosus
- 2. Foramen ovale
- 3. Umbilical vein
- 4. Right ventricle
- 5. Umbilical artery
- 6. Ductus venosus
- 7. Aorta

**Choose the correct sequence of flow from placenta to fetus and then its return:**

- A) 3, 6, 4, 2, 1, 7, 5
- B) 5, 1, 2, 4, 7, 6, 3
- C) 7, 5, 4, 2, 1, 3, 6
- D) 1, 3, 6, 2, 4, 5, 7

65. Which out of the following malignancy commonly metastasise to the placenta:

- A) Ovary
- B) Cervix
- C) Fetal
- D) Breast

66. What is the proportion of hemoglobin F out of the total hemoglobin in a fetus at term:

- A) One fourth
- B) One half
- C) Three fourth
- D) Almost whole

67. Which is correct statement about fetus:
- A) Surfactant biosynthesis takes place in the type I pneumocytes
  - B) Kidney starts functioning by 14 weeks
  - C) Urine production at term is 350 mL per day
  - D) Swallowing begins at 16 to 18 weeks
68. Which statement is incorrect about neural-tube defects:
- A) Incidence is 0.9 per 1000 live births
  - B) Preconceptional folic acid therapy reduces the risk of recurrence by 72%
  - C) Recommended daily dose is 400 to 800  $\mu\text{g}$  of folic acid orally
  - D) Most frequent structural fetal malformation.
69. Which is the most common single-gene disorders worldwide:
- A) Hemoglobinopathies
  - B) Cystic fibrosis
  - C) Glycogen-storage diseases
  - D) Phenylketonuria
70. Which out of the following is most common cause of a "false-positive"  $\beta$ -hCG test:
- A) Renal failure with impaired hCG clearance
  - B) Heterophilic antibodies
  - C) Exogenous  $\beta$ -hCG injections used for weight loss
  - D) Physiological pituitary hCG production
71. Vitamin D deficient levels in pregnancy are not linked with which of the following problem in the newborn:
- A) Disordered skeletal homeostasis
  - B) Congenital rickets and fractures
  - C) Congenital heart disease
  - D) Vitamin D supplementation in women with asthma decreases the likelihood of childhood asthma



72. While doing second trimester transabdominal ultrasound to rule out fetal structural malformations, cervix x appears short or is inadequately visualized. What should be the next appropriate step?
- A) Cerclage placement
  - B) Transvaginal ultrasound
  - C) Test for cervical infections
  - D) No further investigations required as this is a normal finding
73. Which of the following condition does not command fetal Echocardiography:
- A) Retinoid exposure
  - B) Nuchal translucency  $\geq 3.5$  mm;
  - C) In vitro fertilization;
  - D) Twin gestations
74. Which of the following is not an acceptable way to document amnionic fluid when reporting ultrasound findings?
- A) Subjectively normal amnionic fluid volume
  - B) Amnionic fluid index
  - C) Deepest vertical pocket
  - D) Maximal vertical pocket
75. Fetal alcohol syndrome has specific criteria including all of the following, except:
- A) Dysmorphic facial features
  - B) Postnatal growth restriction
  - C) Head circumference  $\leq 50$ th percentile
  - D) Recurrent nonfebrile seizures
76. Which of the following statement is not true about cytogenetic analysis:
- A) Tests for numerical chromosomal abnormalities
  - B) It can also identify balanced or unbalanced structural rearrangements
  - C) Diagnostic accuracy exceeds 99 percent
  - D) Performed on chromosomes of dividing cells arrested in prophase

77. Chromosomal Microarray Analysis, which is not true:
- A) Test is 100 times more sensitive than karyotyping
  - B) CMA on uncultured cells yield results in 18 to 21 days.
  - C) CMA on cultured cells yield results in about 10 to 14 days
  - D) Clinically relevant copy number variants are detected in approximately 6.5 percent of pregnancies with fetal abnormalities having normal karyotyping studies.
78. Which of the following statements regarding a nonstress test is not true?
- A) They do not predict acute asphyxial events.
  - B) Vibroacoustic stimulation of the fetus is not allowed.
  - C) More than 20 minutes may be needed to account for fetal sleep cycles.
  - D) One acceleration is just as reliable as two in predicting healthy fetal status.
79. What is "hook effect":
- A) False-negative urine pregnancy test at very high serum  $\beta$ -hCG levels
  - B) Sub- optimal rise in serum  $\beta$ -hCG levels
  - C) Excessive increase in serum  $\beta$ -hCG levels over the 48 hours
  - D) Non- visualisation of gestational sac even at serum  $\beta$ -hCG levels > 3500 IU/L
80. Cervix has a significantly lower percentage of which of the following tissue as compared to the uterine body:
- A) Collagen
  - B) Proteoglycans
  - C) Smooth muscle
  - D) Glycosaminoglycans
81. Which of the following is not a high risk factor for prolonged second stage:
- A) Nulliparity with high fetal station
  - B) Fetal macrosomia
  - C) Sedation
  - D) Maternal obesity

82. Which of the following statement is false about precipitous labor and delivery:
- A) Result from an abnormally low resistance of the soft parts of the birth canal
  - B) Result from abnormally strong uterine and abdominal contractions
  - C) Expulsion of the fetus in < 3 hours
  - D) Frequently followed by uterine tetany
83. Which complication occurs in around 15% cases of paracervical block used for labor analgesia:
- A) Fetal bradycardia
  - B) Infection
  - C) Hematoma
  - D) Intravascular injection
84. Various causes of deaths associated with regional analgesia (spinal or epidural blocks) for caesarean sections are as follows:
1. Higher than planned spinal levels
  2. Respiratory failure
  3. Drug reaction
- Choose the correct order of frequency of these causes of mortality:
- A) High level = respiratory failure > drug reaction
  - B) Respiratory failure > high level = drug reaction
  - C) High level > respiratory failure = drug reaction
  - D) High level = respiratory failure = drug reaction
85. Which of the following statement is incorrect about current perioperative care as guided by evidence-based enhanced recovery after surgery (ERAS) recommendations:
- A) Solid food intake is stopped at least 6 hours before the procedure.
  - B) Uncomplicated patients may consume clear liquids up to 2 hours before surgery
  - C) Bowel preparation is recommended
  - D) An oral antacid is consumed shortly before induction of general anaesthesia

86. Which of the following is not a common indication of primary caesarean delivery:
- A) Abnormal fetal presentation
  - B) Fetal jeopardy
  - C) Labor dystocia
  - D) Placenta previa
87. As per the available literature, what is the critical time threshold from decision to delivery interval in a case of uterine scar rupture to avoid long-term neurological impairments in the infant? It should be ideally less than:
- A) 6 minutes
  - B) 18 minutes
  - C) 12 minutes
  - D) 25 minutes
88. Choose the correct statement regarding Apgar scores:
- A) Effectively assesses newborn health and effectiveness of resuscitation.
  - B) Assessment is based on 5 characteristics and either 0 or 2 points are awarded.
  - C) Five-minute Apgar score is predictive of neonatal survival in term but not preterm neonates.
  - D) In term neonates, Apgar score  $< 7$  at 5 minutes correlates a hypoxic event as a cause of cerebral palsy.
89. Identify the incorrect statement regarding puerperium:
- A) Immediately postpartum, the anterior and posterior walls, are each  $> 4$  cm thick
  - B) Myometrial involution begins two days after delivery
  - C) Endocervical canal reforms in one week
  - D) Up to one third women have regression of high-grade dysplasia following delivery

90. What will be the correct advice to a patient who is exclusively breastfeeding and has developed cracked nipple?
- A) Continue exclusive breastfeeding without interruption.
  - B) Do not allow infant to feed on the affected side and empty the breast regularly with a pump.
  - C) Wash the areola with mild soap and water daily.
  - D) Apply a steroid cream and use a nipple shield temporarily for 24 hours or more.
91. Which of the following is an antiangiogenic factor and plays a role in development of preeclampsia?
- A) Soluble endoglin (sEng)
  - B) PlGF
  - C) VEGF
  - D) TGF- $\beta$
92. What is the underlying cause of the proteinuria associated with preeclampsia:
- A) Increased renal artery resistance
  - B) Increased capillary permeability
  - C) Increased glomerular filtration rate
  - D) Increased systemic vascular resistance
93. What of the following is an appropriate management of vulvovaginal hematomas:
- A) Surgical exploration in all cases
  - B) They should all undergo ultrasound guided drainage to prevent infection within
  - C) In a small hematoma, if pain is severe then ice packs and analgesia are appropriate
  - D) If bleeding ceases, small to moderate-sized hematomas can be treated expectantly

94. What is incorrect about etiology of preterm labour:
- A) Colonization with an infectious agent is detected in 25 to 40 % cases
  - B) Microbial invasion of the reproductive tract is insufficient to induce preterm labor
  - C) Clinical course is severe when intraamniotic infection is obvious
  - D) Sterile intraamniotic inflammation is also a risk factor
95. A recent study by Murphy et al showed that which of the following complications might be increased in offspring due to in utero exposure to 17-hydroxyprogesterone caproate in first trimester:
- A) Depression
  - B) Delayed neuro-developmental milestones
  - C) Colorectal and prostate cancer
  - D) Hypertension
96. Which of the following statement is true about post maturity syndrome:
- A) Neurological deficits are found in 33%
  - B) Majority have birthweights 10<sup>th</sup> percentile
  - C) complicates 40 to 50 percent of pregnancies at 42 completed weeks
  - D) Oligohydramnios increases its likelihood at 42 weeks
97. According to the American College of Obstetricians and Gynecologists (2020a), at what estimated fetal weight is it reasonable to offer cesarean delivery to a nondiabetic gravida at term:
- A) 4000 grams
  - B) 4500 grams
  - C) 4750 grams
  - D) 5000 grams

98. Which of the following complication of multiple pregnancy may be seen in dichorionic twin pregnancies?
- A) Complete mole with coexisting normal twin
  - B) Fetus-in-fetu
  - C) Acardiac twin
  - D) Twin-twin transfusion syndrome
99. What is the likelihood of intact neurological survival for a neonate delivered via perimortem cesarean within 15 minutes of maternal cardiac arrest:
- A) 100%
  - B) 80%
  - C) 50%
  - D) 33%
100. Which of the following statement is incorrect about fetal congenital malformations in type I diabetic mother:
- A) Incidence is double the rate in as compared to nondiabetic mothers
  - B) Risk of cardiac malformations is four times at periconceptional HbA1c < 6.5 percent
  - C) Neural tube defects are increased by 5 times
  - D) Caudal regression syndrome risk is increased by 80 times
-

# ROUGH WORK



# ROUGH WORK

AL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No.

215401

Test Booklet Series

**TEST BOOKLET  
PEDIATRICS  
Written Test - 2023  
(74)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

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2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.**
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.   
**DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
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8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
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**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
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(74) (A)/2023

[P.T.O.]

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(74) (A)

(2)

1. All of the following items used in making of rehydration solution for malnutrition(ReSoMal) are in correct quantity EXCEPT
  - A) Water: 2 liters
  - B) WHO ORS half of 1 liter sachet
  - C) Sucrose 50 gm
  - D) Electrolyte/mineral solution 40 ml
  
2. Which of the following is not a feature of overarousal in a newborn:
  - A) Inconsolable crying
  - B) Flushing/mottling
  - C) Cyanosis
  - D) Hiccuping
  
3. Following statements regarding development of brain during infancy are true EXCEPT
  - A) Total brain volume doubles in first year of life
  - B) Brain volume is around 60% of adult volume at 2 years of age
  - C) Myelination of brain begins at 7-8 months of gestation
  - D) Myelination proceeds from posterior to anterior.
  
4. All the following amino acids are indispensable in human diet EXCEPT
  - A) leucine
  - B) Methionine
  - C) threonine
  - D) alanine
  
5. In severe acute malnutrition, which of the following statements is TRUE.
  - A) Decreased activity of sodium potassium pump leads to excess body sodium
  - B) Kidneys lose more water leading to dehydration
  - C) Increased absorption of potassium from kidneys.
  - D) Reductive adaptation leads to hypoglycemia.
  
6. One of the following statements regarding craniotabes is TRUE
  - A) Assessed by applying pressure over temporal bone
  - B) It may be normally found in newborns
  - C) It is due to intracranial abnormality
  - D) It is pathognomic for rickets.
  
7. Which of the following is the first clotting factor to be affected by vitamin K deficiency
  - A) Factor I
  - B) Factor II.
  - C) Factor VII
  - D) Factor IX

8. One of the following is NOT a characteristic feature of hypervitaminosis A
- A) Headache and vomiting
  - B) Diplopia
  - C) Hepatosplenomegaly
  - D) Rarefaction of long bones
9. In which of the following conditions, expansion of the intravascular volume and increased intravascular pressure leads to edema.
- A) Lymphatic obstruction
  - B) Heart failure
  - C) Protein-losing enteropathy
  - D) Nephrotic syndrome
10. Syndrome of inappropriate antidiuretic hormone secretion(SIADH) is characterized by
- A) Euvolemic hyponatremia
  - B) Extravascular volume expansion
  - C) Increased blood urea nitrogen
  - D) Increased serum uric acid
11. The propensity of a hydrocarbon to cause aspiration pneumonitis is
- A) Inversely proportional to its viscosity
  - B) Inversely proportional to its viscosity and volatility
  - C) Directly proportional to its viscosity and volatility.
  - D) Inversely proportional to its viscosity, and directly proportional to its volatility.
12. The Phenomenon, one copy of a gene is transcribed and other copy is silenced in an individual is known as
- A) Genetic imprinting
  - B) Genetic Anticipation
  - C) Uniparental Diasomy
  - D) Non Expressiveness
13. In genetic disorders, male to male transmission occurs in Y-linked inheritance and in
- A) X-Linked Inheritance
  - B) Pseudodominant Inheritance
  - C) Digenetic Inheritance
  - D) Autosomal Dominant Disorder.
14. One of the following is NOT a triplet repeat expansion disorder
- A) Cleidocranial dysplasia
  - B) Myotonic dystrophy
  - C) Huntington Disease
  - D) Leber Hereditary Optic Neuropathy

15. The MOST appropriate treatment for classic homocystinuria is
- A) Betaine
  - B) Folic Acid
  - C) Vitamin C
  - D) Vitamin B6
16. Following is true regarding X-linked adrenoleukodystrophy (ALD)
- A) Autosomal dominant inheritance
  - B) Mitochondrial disorder
  - C) Elevated ACTH levels in 85% of patients
  - D) MRI shows white matter changes in Frontal lobe
17. Penile length starts to increase occur during SMR
- A) 1
  - B) 2
  - C) 3
  - D) 4
18. Primary amenorrhea generally requires evaluation, if menstruation does not occur within
- A) 1 year from the onset of puberty
  - B) 2 year from the onset of puberty
  - C) 3 year from the onset puberty
  - D) 4 year from the onset puberty
19. In newborns, Sinus bradycardia is considered if sinus rate is
- A) <100 beats/min
  - B) <90 beats/min
  - C) <80 beats/min
  - D) <70 beats/min
20. Following facts are true regarding severe combined immunodeficiency EXCEPT
- A) Thymus is very small
  - B) Lymph nodes are enlarged
  - C) High tendency for graft versus host disease
  - D) Persistently low lymphocyte count.
21. One of the following conditions does NOT cause eosinophilia
- A) Malaria
  - B) Amebiasis
  - C) Giardiasis
  - D) Ascariasis

22. The sign "Allergic shiners" is thought to occur because of
- A) An upward rubbing of the nose with an open palm
  - B) Continuous open-mouth breathing
  - C) Venous stasis beneath lower eyelids
  - D) Conjunctival edema and itching
23. Atopic dermatitis typically begins in
- A) Infancy
  - B) Toddlerhood
  - C) School Age
  - D) Adolescence
24. In Oligoarthritis (the most common subtype of juvenile idiopathic arthritis) the MOST commonly affected joint is
- A) Hip
  - B) Knee
  - C) Elbow
  - D) Wrist
25. In approximately 15% cases, Kawasaki disease is intravenous immunoglobulin (IVIG) resistant, this condition is defined as persistence of following abnormality even after 36 hours of IVIG.
- A) Coronary artery abnormalities
  - B) Rash
  - C) Fever
  - D) Development of shock
26. Following facts about intramuscular immunoglobulin are true EXCEPT
- A) Derived from large pools of human plasma
  - B) Does not transmit infectious agents
  - C) Can be used for measles prophylaxis
  - D) Can be used for intravenous use.
27. Which of the following vaccines is contraindicated for a patient with X-linked agammaglobulinemia?
- A) BCG
  - B) Hepatitis B
  - C) DPT
  - D) MMR
28. Fever is defined as a rectal temperature of
- A)  $\geq 37.5^{\circ}\text{C}$
  - B)  $\geq 37.6^{\circ}\text{C}$
  - C)  $\geq 38^{\circ}\text{C}$
  - D)  $\geq 38.1^{\circ}\text{C}$

29. Which of the following is NOT a WHO criterion for severe malaria
- A) Impaired consciousness
  - B) Severe anemia
  - C) Jaundice
  - D) Renal failure
30. Which of the following facts regarding herpetic gingivostomatitis is TRUE
- A) Incubation period is usually 3 weeks
  - B) Fever is rare
  - C) Antivirals are not needed in immunocompetent persons
  - D) Symptoms resolve without scarring.
31. All of the following criteria must be met for the consensus definition of cyclical vomiting syndrome EXCEPT
- A)  $\geq 2$  episodes within 6-month period
  - B) Stereotypical pattern in individual patient
  - C) Attacks precipitated by fasting or high protein meal
  - D) Returns to baseline between episodes
32. Advanced dentition for age and sex is seen in
- A) Nutritional Disturbances
  - B) Hypopituitarism
  - C) Cleidocranial Dysplasia
  - D) Hyperthyroidism
33. The most sensitive study of Meckel diverticulum is
- A) Plain Abdominal Radiographs
  - B) Barium Studies
  - C) Radionuclide Technetium-99m Scans
  - D) Abdominal CT Scan
34. Ileus is the failure of intestinal peristalsis caused by loss of coordinated gut motility without evidence of mechanical obstruction. In children, ileus accompanies the following metabolic abnormalities EXCEPT
- A) Uremia
  - B) Hypokalemia
  - C) Hypocalcemia
  - D) Hypermagnesemia
35. The MOST common anomalies associated with anorectal malformations is
- A) Kidney Anomalies
  - B) Cardiac Anomalies
  - C) Esophageal Atresia
  - D) Spina Bifida



36. Which of the following statements is NOT TRUE in children with croup
- A) Progressive stridor is an indication for hospitalization
  - B) In spasmodic croup fever and URI symptoms are absent
  - C) Routinely X ray neck is not required
  - D) Oral prednisolone is more efficacious than oral dexamethasone
37. Which of the following is gold standard for diagnosis of acid gastroesophageal reflux
- A) Radionuclide salivagram
  - B) High resolution CT chest
  - C) Esophageal pH monitoring
  - D) Esophageal impedance monitoring
38. Recurrent pneumonia is defined as
- A) 2 or more episodes in a single year, with radiographic clearing between occurrences
  - B) 2 or more episodes in a single year, without radiographic clearing between occurrences
  - C) 3 or more episodes in a single year, with radiographic clearing between occurrences
  - D) 3 or more episodes in a single year, without radiographic clearing between occurrences
39. Hypertrophic cardiomyopathy is a recognized association with
- A) Infant of diabetic mother
  - B) Marfan syndrome
  - C) William Syndrome
  - D) Trisomy 21 (Down syndrome)
40. Which of the following is a cyanotic lesion with increased pulmonary blood flow
- A) Transposition of the great arteries
  - B) Tricuspid atresia
  - C) Tetralogy of Fallot
  - D) Single ventricle with pulmonary stenosis
41. One of the following facts about G6PD deficiency is TRUE
- A) Autosomal dominant inheritance
  - B) Quinolones are safe
  - C) Diabetic ketoacidosis can precipitate hemolysis
  - D) In chronic hemolytic anemia variant, splenectomy is useful
42. Paroxysmal hypercyanotic attacks or "tet" spells are characterized by
- A) Early evening occurrence
  - B) An increase in intensity of the systolic murmur
  - C) Unpredictable onset
  - D) More frequent spells in patients with marked cyanosis at rest

43. The valuable diagnostic feature that differentiates anemia of chronic disorder from iron deficiency anemia is
- A) Low Serum Iron
  - B) Low or Normal Serum Transferrin
  - C) Normal Bone Marrow Cellularity
  - D) Normochromic Normocytic RBCs
44. Following facts are correct about physiological anemia of prematurity EXCEPT
- A) Hemoglobin decline is extreme
  - B) Repeated Blood sampling plays a role
  - C) RBC half life is shorter in preterms compared to term infants
  - D) Plasma Erythropoietin levels are increased for degree of anemia
45. Which of the following facts about Wilms tumour is TRUE
- A) It is the most common malignant abdominal tumour in childhood
  - B) Commonly associated with trisomy 21
  - C) Since tumour is metabolically inactive, PET scan is not useful
  - D) Outcome is most favourable among pediatric solid tumours.
46. Glomerular hematuria is associated with
- A) Urinary microscopic findings of RBC casts
  - B) Minimal proteinuria on dipstick(<100 mg/dL)
  - C) Gross hematuria that is bright red or pink
  - D) Normal urinary RBC morphology
47. Which of the following facts about childhood Ig A nephropathy is TRUE
- A) Proteinuria is the most common presentation
  - B) It is a common cause of end stage renal disease in children
  - C) Serum C3 levels are normal
  - D) Routine tonsillectomy should be done in these cases.
48. The etiology of hypercoagulable state in Nephrotic syndrome is
- A) Increase in intravascular volume
  - B) Changes in coagulation factor levels
  - C) Low hepatic production of fibrinogen
  - D) High antithrombin III levels
49. Sterile pyuria can occur in all of the following conditions.
- A) Partially treated bacterial UTI
  - B) Appendicitis
  - C) Kawasaki disease
  - D) Urine collected by collection bag.

50. Indications for Growth Hormone treatment to promote growth include the following EXCEPT
- A) Growth Hormone deficiency
  - B) Chronic renal failure before transplantation
  - C) Celiac disease
  - D) Idiopathic short stature
51. In a child with hypothyroidism on treatment, which of the following statements is NOT TRUE.
- A) Dose on weight basis gradually decreases
  - B) TSH should be maintained in age specific range
  - C) In < 3 years of age, Serum Free T3 should be measured
  - D) Free T4 helps in assessing poor adherence to treatment.
52. Xanthochromia of cerebrospinal fluid(CSF) suggests the following EXCEPT
- A) Bloody Tap
  - B) Subarachnoid Hemorrhage
  - C) Carotenemia
  - D) Very High CSF Protein
53. Cranial CT is a valuable diagnostic tool in the evaluation of the following conditions EXCEPT
- A) Skull Fractures
  - B) Hydrocephalus
  - C) Acute Infarcts
  - D) Pneumocephalus
54. Epilepsy surgery is often used to treat refractory epilepsy of a number of etiologies including the following EXCEPT
- A) Leukodystrophy
  - B) Cortical Dysplasia
  - C) Sturge Weber Syndrome
  - D) Polymicrogyria

55. Following are true about Idiopathic intracranial hypertension include the following EXCEPT
- A) Headache worsening with valsalva
  - B) Pulsatile tinnitus
  - C) Abnormal CSF profile
  - D) Ventriculoperitoneal shunting might be rarely required
56. The standard method for determining a patient's vitamin D status is
- A) Serum calcium
  - B) 25-hydroxy vitamin D level
  - C) 1,25-dihydroxy vitamin D level
  - D) Parathyroid hormone
57. The following factors are associated with a higher risk of seizure relapse after antiepileptic drugs(AEDs) withdrawal EXCEPT
- A) Younger age of epilepsy onset
  - B) Longer duration of epilepsy
  - C) Presence of multiple seizure types
  - D) Requirement of multiple AEDs
58. Following facts about dopa responsive dystonia are true EXCEPT
- A) Could be confused with dystonic cerebral palsy
  - B) Diurnal variation of symptoms
  - C) Neurotransmitter analysis is helpful in diagnosis
  - D) MRI brain is often abnormal
59. All the following are features of Duchenne muscular dystrophy EXCEPT
- A) Scoliosis
  - B) Contracture
  - C) Tongue Fasciculation
  - D) Pharyngeal Weakness

60. Consider the following statements regarding immunological criteria for diagnosis of Systemic Lupus Erythematosus(SLE)

- 1) ANA is highly specific for SLE
- 2) Anti-dsDNA antibody is highly sensitive for SLE
- 3) Anti-Smith antibody is highly specific for SLE
- 4) Hypocomplementemia is included in the SLICC criteria but not in th ACR criteria for diagnosis of SLE

Which of the above statements is correct?

- A) 1,2,3,4
- B) 2,3,4
- C) 3,4
- D) 1,4

61. Consider the following pairs for neuroimaging correlates of cerebral palsy

- |                         |                                 |
|-------------------------|---------------------------------|
| 1) Spastic Quadriplegia | a. Periventricular leukomalacia |
| 2) Spastic diplegia     | b. Scars in basal ganglia       |
| 3) Hemiplegia           | c. Focal infract                |
| 4) Dyskinetic           | d. Multicystic encephalomalacia |

Match the above pairs:

- A) 1d, 2a, 3c, 4b
- B) 1a, 2d, 3c, db
- C) 1a, 2b, 3c, 4d
- D) 1c, 2b, 3a, 4d

62. Match the following pairs for clinical features of Guillain-Barre Slyndrome

- |                                      |  |
|--------------------------------------|--|
| 1) Dysphagia and facial weakness     | a. Sign of autonomic instability                                     |
| 2) Fluctuating blood pressure        | b. Signs of impending respiratory paralysis                          |
| 3) Ataxia, areflexia                 | c. Sign of chronic inflammatory demyelinating polyradiculoneuropathy |
| 4) Clinical progression over>6 weeks | d. Sign of miller fisher syndrome                                    |

Which of the following is correct match for above

- A) 1c, 2a, 3b, 4d
- B) 1b, 2a, 3d, 4c
- C) 1a, 2b, 3c, 4d
- D) 1d, 2c, 3a, 4b

63. Match the following pairs of etiology of sensorineural hearing loss (SNHL)

- |                             |  |
|-----------------------------|--|
| 1) CMV infection            | a. Heterochromic iris, SNHL, white forelock    |
| 2) Alport syndrome          | b. Causes acquired SNHL                        |
| 3) Streptococcus pneumoniae | c. Most common cause of congenital SNHL        |
| 4) Waardenberg syndrome     | d. Presents with nephritis, SNHL, lens defects |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1c, 2d, 3b, 4a
- C) 1d, 2a, 3c, 4b
- D) 1d, 2c, 3a, 4b

64. Consider the following options regarding most common conditions associated with following skin lesions

- |                   |                              |
|-------------------|------------------------------|
| 1) Café au lait   | a. Tuberos sclerosis         |
| 2) Vitiligo       | b. Neurofibromatosis type 1  |
| 3) Albinism       | c. Autoimmune etiology       |
| 4) Ash leaf spots | d. Absent Tyrosine activity. |

Which of the following is correct match for the above

- A) 1b, 2c, 3d, 4a
- B) 1d, 2c, 3b, 4a
- C) 1b, 2d, 3a, 4c
- D) 1b, 2d, 3c, 4a

65. Consider the following options regarding treatment of various poisonings

- |                        |                        |
|------------------------|------------------------|
| 1) Mercury             | a. DMSA, Penicillamine |
| 2) Lead                | b. Pralidoxime         |
| 3) Organophosphate     | c. Dimercaprol, BAL    |
| 4) Dhatura(Belladonna) | d. Physostigmine       |

Which of the following is correct match for the above

- A) 1a, 2c, 3b, 4d
- B) 1c, 2a, 3d, 4b
- C) 1d, 2c, 3b, 4a
- D) 1c, 2a, 3b, 4d

66. Consider the following facts about appearance/duration of various stages in measles infection

- |  |    |           |
|--|----|-----------|
| 1) Incubation period of measles                        | a. | 1-4 days  |
| 2) Koplik spots appear ___ days before rash            | b. | 8-12 days |
| 3) Rash fades in ___ days                              | c. | 1-2 days  |
| 4) IgM antibodies appears ___ days after onset of rash | d. | 7 days    |

Which of the following is correct match for the above

- A) 1b, 2a, 3d, 4c
- B) 1b, 2c, 3d, 4a
- C) 1d, 2a, 3c, 4b
- D) 1a, 2b, 3c, 4d

67. Consider the following statements regarding various clinical phenotypes of poliomyelitis infection .

- |                         |    |                                     |
|-------------------------|----|-------------------------------------|
| 1) Inapparent infection | a. | Nuchal rigidity, absent reflexes    |
| 2) Abortive polio       | b. | Flaccid paralysis                   |
| 3) Nonparalytic polio   | c. | Influenza like illness, no sequelae |
| 4) Paralytic polio      | d. | No disease, no sequelae             |

Which of the following is correct match for the above

- A) 1d, 2c, 3a, 4b
- B) 1a, 2c, 3b, 4d
- C) 1d, 2a, 3c, 4b
- D) 1a, 2b, 3c, 4d

68. Consider the following first line treatment options for various types of pediatric epilepsies/ seizure types

- |                  |    |   |
|------------------|----|---|
| 1) Oxcarbazepine | a. | Focal onset seizures, Juvenile myoclonic epilepsy |
| 2) Levetiracetam | b. | Childhood absence epilepsy                        |
| 3) Ethosuximide  | c. | Infantile spasms, focal onset                     |
| 4) Vigabatrin    | d. | Focal onset                                       |

Which of the following is correct match for the above

- A) 1d, 2a, 3b, 4c
- B) 1a, 2b, 3d, 4c
- C) 1a, 2b, 3c, 4d
- D) 1b, 2c, 3a, 4d

69. Following drugs should be avoided in certain conditions

- |                             |                                     |
|-----------------------------|-------------------------------------|
| 1) Valproate                | a. Renal stones                     |
| 2) Topiramate               | b. Obesity, Mitochondrial disorders |
| 3) Phenytoin, carbamazepine | c. Hypertension                     |
| 4) ACTH                     | d. HLA-B*1502 allele                |

Which of the following is correct match for above scenario

- A) 1c, 2b, 3d, 4c
- B) 1a, 2b, 3d, 4c
- C) 1b, 2a, 3c, 4d
- D) 1b, 2a, 3d, 4c

70. For attainment of every developmental milestone there is an average age, consider following options for it

- |                                    |              |
|------------------------------------|--------------|
| 1) Sits in tripod position         | a. 6 months  |
| 2) Mature pincer grasp             | b. 18 months |
| 3) Waves bye bye                   | c. 12 months |
| 4) 8-10 word bisyllable vocabulary | d. 9 months  |

Which of the following is correct match for the above

- A) 1b, 2c, 3a, 4d
- B) 1a, 2c, 3d, 4b
- C) 1d, 2a, 3c, 4b
- D) 1a, 2d, 3c, 4b

71. Consider the following statements regarding characteristics of developmental disorders

- |  |  |
|--|--|
| 1) Autism spectrum disorder                  | a. Unexpected difficulty in reading with normal intelligence |
| 2) Attention deficit hyperactivity disorder. | b. Excessive shyness, withdrawal                             |
| 3) Dyslexia                                  | c. Difficulty in organizing tasks and activities             |
| 4) Selective mutism                          | d. Restrictive pattern of behaviour, interests               |

Which of the following is correct match for the above

- A) 1d, 2c, 3b, 4a
- B) 1b, 2c, 3a, 4d
- C) 1d, 2c, 3a, 4b
- D) 1c, 2a, 3b, 4d



72. Consider the following statements regarding treatment of bronchial asthma

- |                 |   |
|-----------------|---|
| 1) Monteleukast | a. Nonsteroidal anti-inflammatory, decrease allergen challenge induced bronchospasm |
| 2) Cromolyn     | b. Phosphodiesterase inhibitor, bronchodilator and anti inflammatory                |
| 3) Theophylline | c. Leukotriene modifying agent, act as bronchodilator and anti-inflammatory agent   |
| 4) Omalizumab   | d. Humanized monoclonal antibody, blocks IgE mediated allergic responses            |

Which of the following is correct match for the above

- A) 1b, 2a, 3d, 4c
- B) 1c, 2a, 3b, 4d
- C) 1a, 2b, 3c, 4d
- D) 1d, 2a, 3b, 4c

73. Consider the following statements regarding common features of various vitamin deficiencies

- |                  |   |
|------------------|---|
| 1) Thiamine      | a. Wernicke encephalopathy                        |
| 2) Niacin        | b. Infantile tremor syndrome                      |
| 3) Cobalamin     | c. Tenderness and swelling of legs, bleeding gums |
| 4) Ascorbic acid | d. Pellagra                                       |

Which of the following is correct match for the above

- A) 1a, 2d, 3b, 4c
- B) 1d, 2a, 3b, 4c
- C) 1a, 2b, 3c, 4d
- D) 1b, 2d, 3a, 4c

74. Consider the following Statements regarding hyponatremia and its causes

- |                              |                       |
|------------------------------|-----------------------|
| 1) Euvolemic hyponatremia    | a. Nephrotic syndrome |
| 2) Hypovolemic hyponatremia  | b. Bowel obstruction  |
| 3) Hypervolemic hyponatremia | c. SIADH              |
| 4) Pseudohyponatremia        | d. hyperlipidemia     |

Which of the following is correct match for the above

- A) 1c, 2b, 3a, 4d
- B) 1b, 2a, 3c, 4d
- C) 1a, 2b, 3c, 4d
- D) 1d, 2b, 3a, 4c

75. Following are the treatment options for management of hyperkalemia and their mechanism of action

- |                  |  |
|------------------|--|
| 1) Bicarbonate   | a. Exchange resin  |
| 2) Calcium       | b. Renal excretion of Potassium                                    |
| 3) Loop diuretic | c. Causes potassium to move intracellular                          |
| 4) Kayexalate    | d. Stabilizes cell membrane of heart cells, preventing arrhythmias |

Which of the following is correct match for the above

- A) 1d, 2c, 3b, 4a
- B) 1b, 2d, 3c, 4a
- C) 1a, 2b, 3c, 4d
- D) 1c, 2d, 3b, 4a

76. Consider the following various types of syncope and precipitating events

- |                          |                                      |
|--------------------------|--------------------------------------|
| 1) Neurocardiogenic      | a. Symptoms with exertion            |
| 2) Cardiogenic           | b. Symptoms after prolonged standing |
| 3) Neurologic            | c. Symptoms with head rotation       |
| 4) Carotid sinus related | d. Preceding aura                    |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1c, 2a, 3b, 4d
- C) 1b, 2a, 3d, 4c
- D) 1d, 2c, 3b, 4a

77. As per IMNCI guidelines, following treatment is given for various conditions

- |  |   |
|--|---|
| 1) Infant upto 2 months of age with severe dehydration   | a. Give ORS on way to hospital and refer urgently                           |
| 2) Child 2 months-5 years of age with Pneumonia          | b. Cefixime for 5 days, ORS   |
| 3) Child 2 months-5 years of age with severe dehydration | c. First dose of intramuscular ampicillin and gentamycin and refer urgently |
| 4) Child 2 months-5 years of age with dysentery          | d. Oral amoxycillin for 5 days , follow up in 2 days                        |

Which of the following is correct match for the above

- A) 1c, 2d, 3a, 4b
- B) 1a, 2b, 3c, 4d
- C) 1b, 2d, 3c, 4a
- D) 1c, 2a, 3b, 4d

78. Match the adverse reactions to commonly used NICU drugs in premature newborns

- |                       |                                |
|-----------------------|--------------------------------|
| 1) Oxygen             | a. Intraventricular hemorrhage |
| 2) Chloramphenicol    | b. Grey baby syndrome          |
| 3) Sodium bicarbonate | c. Deafness                    |
| 4) Furosemide         | d. Bronchopulmonary dysplasia  |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1d, 2b, 3a, 4c
- C) 1a, 2b, 3d, 4c
- D) 1c, 2d, 3b, 4a

79. Match the commonly used drugs for treatment of congestive heart failure in children and their mechanism of action

- |                   |                                |
|-------------------|--------------------------------|
| 1) Spironolactone | a. Adrenergic agonist          |
| 2) Captopril      | b. Diuretic                    |
| 3) Dobutamine     | c. Afterload reducing agent    |
| 4) Milrinone      | d. Phosphodiesterase inhibitor |

Which of the following is correct match for the above

- A) 1b, 2c, 3a, 4d
- B) 1b, 2d, 3a, 4c
- C) 1c, 2a, 3b, 4d
- D) 1c, 2d, 3a, 4b

80. Newborns have various type of abnormal movements, in the right sided column, their characteristics are given, look for appropriate matches

- |                      |   |
|----------------------|---|
| 1) Neonatal seizures | a. Recurrent oral-buccal-lingual movements with normal EEG    |
| 2) Motor automatism  | b. Associated with abnormal eye movement or facial movement   |
| 3) Jitteriness       | c. Could be a manifestation of seizure                        |
| 4) Apnea             | d. Recurrent tremors, can be stopped by holding the extremity |

Which of the following is correct match for the above

- A) 1b, 2a, 3d, 4c
- B) 1b, 2d, 3a, 4c
- C) 1d, 2b, 3c, 4a
- D) 1a, 2b, 3c, 4d

81. Match the following types of cardiomyopathies with their physiological correlates

- |                                |   |
|--------------------------------|---|
| 1) Dilated cardiomyopathy      | a. Reduced contractility, variable diastolic dysfunction                  |
| 2) Restrictive cardiomyopathy  | b. Increased to normal systolic function                                  |
| 3) Hypertrophic cardiomyopathy | c. contractility nearly normal, marked increase in end diastolic pressure |
| 4) Infectious                  | d. Reduced systolic function.   |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1b, 2a, 3c, 4d
- C) 1a, 2c, 3b, 4d
- D) 1d, 2c, 3a, 4b

82. Match the various causes of acute kidney injury with urinary findings

- |                                 |  |
|---------------------------------|--|
| 1) Hypovolemia                  | a. Granular casts                        |
| 2) Acute tubular necrosis       | b. White blood cells, Eosinophils        |
| 3) Acute interstitial nephritis | c. Red blood cells, Red blood cell casts |
| 4) Glomerulonephritis           | d. Hyaline casts                         |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1b, 2d, 3a, 4c
- C) 1c, 2a, 3d, 4b
- D) 1d, 2a, 3b, 4c

83. Consider following Recommendation for postexposure prophylaxis for Hepatitis B in Health Care Professional(HCP)

- |   |  |
|---|--|
| 1) Unvaccinated HCP, source Hbs Ag Positive                                     | a. No treatment                                |
| 2) Unvaccinated HCP, source Hbs Ag negative                                     | b. HbIG+hepatitis B revaccination series       |
| 3) Fully vaccinated, adequate anti HBs antibody titre, source Hbs Ag positive   | c. HbIG + begin hepatitis B vaccination Series |
| 4) Fully vaccinated, inadequate anti HBs antibody titre, source Hbs Ag positive | d. Start hepatitis B vaccination series        |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1b, 2a, 3c, 4d
- C) 1c, 2d, 3a, 4b
- D) 1d, 2c, 3a, 4b

84. Following are routine vaccines and their site/route of administration as per Indian academy of Pediatrics guidelines

- |                |   |
|----------------|---|
| 1) MR          | a. Left upper arm, intradermal                    |
| 2) BCG         | b. Right upper arm, sub cutaneous                 |
| 3) Hepatitis B | c. Anterolateral side of mid-thigh, Intramuscular |
| 4) Td          | d. Upper arm, Intramuscular                       |

Which of the following is correct match for the above

- A) 1a, 2b, 3c, 4d
- B) 1b, 2a, 3c, 4d
- C) 1c, 2d, 3a, 4b
- D) 1d, 2c, 3b, 4a

85. Consider the following statements regarding constitutional growth delay

- 1) Birth weight and length are normal
- 2) Puberty is delayed
- 3) Bone age is less than the chronological age
- 4) Final height is normal

Which of the above statements are true?

- A) 1,2,3
- B) 1,2,4
- C) 2,3,4
- D) 1,2,3,4

86. Consider the following statements regarding Failure to Thrive(FTT)

- 1) Term used for infants and children upto maximum 2 years of age
- 2) FTT is non-organic in upto 80% cases
- 3) All children with FTT need hospitalisation
- 4) Gastroesophageal reflux can lead to FTT

Which of the above statements are true?

- A) 1,2
- B) 1,2,3,4
- C) 1,4
- D) 2,4

87. For a two years old normally developing child, consider the following statements

- 1) Can ride a tricycle
- 2) Can copy a circle
- 3) Knows his/her gender
- 4) Can make a gate of 5 cubes

Which of the above statements is/are correct?

- A) 1,2,3,4
- B) 1,2,3
- C) 1,2
- D) 1

88. Consider the following statements regarding separation anxiety disorder(SAD)

- 1) SAD is more common in prepubertal children
- 2) Average age of onset is 7.5 years
- 3) Boys are more frequently affected than girls
- 4) Children with SAD compared to those without SAD are 3 times more likely to develop panic disorder in adolescence

Which of the above statements are correct?

- A) 1,2,3,4
- B) 1,2,3
- C) 1,2,4
- D) 1,3,4

89. Consider the following regarding acetaminophen (APAP) poisoning

- 1) If a toxic ingestion is suspected, a serum APAP level should be measured atleast 6 hrs after the reported time of ingestion
- 2) If the APAP level is known and the ingestion is within 24 hr of the level being drawn, treatment decisions are based on where the level falls on the Rumack-Matthew nomogram
- 3) Peak transaminase levels are seen in stage 3 toxicity
- 4) Intravenous N-acetylcysteine is considered more efficacious than oral

Which of the above statements are *incorrect*?

- A) 1,3
- B) 2,3
- C) 1,4
- D) 3,4

90. Consider the following statements regarding iron toxicity.

- 1) Pediatric patients who ingest >40 mg/kg of elemental iron should be referred to medical care for evaluation
- 2) The 1<sup>st</sup> stage of toxicity is referred to as the "quiescent phase"
- 3) Symptomatic patients and patients with a large exposure by history should have serum iron levels drawn 4-6 hr after ingestion
- 4) An abdominal radiograph might reveal the presence of iron tablets as all formulations of iron are radiopaque.

Which of the above statements are *incorrect*?

- A) 1,2
- B) 2,3
- C) 2,4
- D) 3,4

91. Regarding prenatal diagnosis of aneuploidies, consider the following statements
- 1) Ultrasound for nuchal translucency is best performed at 11 to 13<sup>+6</sup> weeks gestation
  - 2) MSAFP is best measured between 10 and 14 weeks gestation
  - 3) Only 80% of the foetuses with trisomy 21 will have a positive quadruple screen
  - 4) High MSAFP is specific for aneuploidy

Which of the above statements are correct?

- A) 1,2
- B) 1,2,3
- C) 1,3
- D) 1,2,3,4

92. Consider the following statements regarding Typhoid conjugate vaccine (TCV)

- 1) Dose is 0.5 ml
- 2) Route is subcutaneous
- 3) Under IAP schedule 2021, single dose at  $\geq 6$  months of age is preferred
- 4) Storage is at 2-8 deg Celsius

Which of the above statements are true

- A) 1,2,3,4
- B) 1,2,4
- C) 1,3,4
- D) 1,2,3

93. Consider the following statements regarding Cervarix vaccine.

- 1) It works against four strains of HPV
- 2) It is given intramuscular
- 3) It is to be stored at 2-8 deg Celsius
- 4) It is the recommended vaccine for boys

Which of the above statements are incorrect?

- A) 1,4
- B) 2,4
- C) 2,3
- D) 1,3



94. Consider the following statements regarding immunisation in children infected with HIV

- 1) Wherever feasible, IPV is preferred over OPV
- 2) Live vaccines may be given in early stages of HIV after counselling
- 3) Neonates born to HIV positive mother with indeterminate HIV status should receive initial immunisation as per normal schedule.
- 4) Symptomatic infants should not receive BCG

Which of the above statements are correct?

- A) 1,2,3,4
- B) 1,3,4
- C) 1,2
- D) 1,3

95. Consider the following statements regarding Tyrosinemia type 1.

- 1) It is caused due to deficiency of Phenylalanine hydroxylase enzyme
- 2) Most patients present between 2 and 6 months of age
- 3) Elevated levels of tyrosine in serum and urine are diagnostic
- 4) The treatment of choice is nitisinone

Which of the above statements are correct?

- A) 1,2,3,4
- B) 2,3
- C) 1,3
- D) 2,4

96. Consider the following statements regarding Pompe disease

- 1) Pompe disease is an x-linked recessive disorder
- 2) Infantile onset Pompe is uniformly lethal without enzyme replacement therapy
- 3) Affected infants present with spasticity and contractures
- 4) Late onset Pompe disease is characterised by proximal limb girdle muscle weakness

Which of the above statements are correct?

- A) 1,2,3,4
- B) 1,3,4
- C) 2,4
- D) 2,3,4

97. Consider the following statements regarding Wiskott-Aldrich syndrome

- 1) It is an autosomal recessive disorder
- 2) It is characterised by atopic dermatitis, thrombocytopenic purpura and recurrent infections.
- 3) The Predominant immunoglobulin pattern is a low serum level of IgM, elevated IgA and IgE, and a normal or slightly low IgG concentration.
- 4) HSCT is the treatment of choice when a high-quality matched donor is available and is usually curative.

Which of the above statements are correct?

- A) 1,2,3,4
- B) 1,2,3
- C) 2,3,4
- D) 1,2

98. Consider the following statements regarding Leucocyte Adhesion Deficiency (LAD)

- 1) Leukocyte adhesion deficiency types 1(LAD-1) 2(LAD-2),and 3(LAd-3)are rare autosomal recessive disorders of leukocyte function
- 2) Bombay phenotype blood group is found in LAD-1
- 3) LAD-3 is characterized by a Glanzmann thrombasthenia-like bleeding disorder
- 4) Infections in LAD-2 are milder than that in LAD-1

Which of the above statements are true?

- A) 1,2,3,4
- B) 1,3,4
- C) 1,2,4
- D) 1,2,3

99. Regarding leukemoid reaction, consider the following statements.

- 1) Nonmalignant WBC counts exceeding  $50,000/\mu L$  have historically been termed as leukemoid reaction
- 2) Leukemoid reactions are most often lymphocytic
- 3) Leukemoid reactions are frequently associated with severe viral infections
- 4) Unlike leukemia, leukemoid reactions show relatively small proportions of immature myeloid cells

Which of the above statements are true?

- A) 1,2,3,4
- B) 1,2,3
- C) 1,2
- D) 1,4

100. Consider the following statements regarding the cutaneous rash classically seen in systemic onset juvenile idiopathic arthritis

- 1) It is salmon coloured
- 2) It is pruritic
- 3) It is non-migratory
- 4) It predominantly occurs over trunk and proximal extremities

Which of the above statements are *incorrect*?

- A) 1,2
  - B) 2,3
  - C) 3,4
  - D) 1,4
-

# ROUGH WORK

# ROUGH WORK

AL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **215313**

Test Booklet Series

**TEST BOOKLET  
PATHOLOGY  
Written Test - 2023  
(73)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
6. All items carry equal marks.
7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use **"ONLY BALL POINT PEN"**.
11. **Penalty for wrong answers:**  
**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
  - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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**(73) (A)/2023**

**[P.T.O.]**



1. Which of the following is the primary mechanism of reversible cell injury?
  - A) DNA damage
  - B) Mitochondrial dysfunction
  - C) Membrane damage
  - D) Protein misfolding
  
2. Which of the following is a common cause of cellular injury due to the formation of reactive oxygen species (ROS)?
  - A) Hypoxia
  - B) Viral infection
  - C) Endoplasmic reticulum stress
  - D) Iron overload
  
3. Which type of cell injury is characterized by the enzymatic degradation of cellular components?
  - A) Coagulative necrosis
  - B) Apoptosis
  - C) Liquefactive necrosis
  - D) Caseous necrosis
  
4. Which of the following is a common cause of cellular injury in alcoholic liver disease?
  - A) Steatosis
  - B) Hydropic degeneration
  - C) Amyloidosis
  - D) Granuloma formation
  
5. Which of the following cellular adaptations is often seen in response to chronic hypoxia?
  - A) Hyperplasia
  - B) Atrophy
  - C) Metaplasia
  - D) Dysplasia
  
6. A 45-year-old male presents with redness, warmth, and swelling at the site of a recent injury. He reports pain and difficulty moving the affected area. Which cells are primarily responsible for these acute inflammatory responses?
  - A) Neutrophils
  - B) Lymphocytes
  - C) Macrophages
  - D) Fibroblasts





12. A 45-year-old male presents with recurrent episodes of wheezing, shortness of breath, and coughing. He has a history of allergies and eczema. Lab tests reveal elevated levels of eosinophils in his peripheral blood. What type of hypersensitivity reaction is most likely occurring in this patient?
- A) Type I hypersensitivity
  - B) Type II hypersensitivity
  - C) Type III hypersensitivity
  - D) Type IV hypersensitivity
13. A 30-year-old female presents with joint pain and morning stiffness in her hands. Physical examination reveals swelling and tenderness in multiple joints, including the small joints of the hands. Lab tests show the presence of rheumatoid factor (RF) and anti-cyclic citrullinated peptide (anti-CCP) antibodies. What autoimmune disorder is most likely responsible for these findings?
- A) Osteoarthritis (OA)
  - B) Systemic lupus erythematosus (SLE)
  - C) Rheumatoid arthritis (RA)
  - D) Psoriatic arthritis (PsA)
14. A 40-year-old male presents with fatigue, pale skin, and frequent infections. Lab tests reveal a low hemoglobin level, low red blood cell count, and low platelet count. Bone marrow examination shows hypocellular marrow with few hematopoietic cells. What immunopathological condition is most likely responsible for these findings?
- A) Hemolytic anemia
  - B) Aplastic anemia
  - C) Thrombocytopenia
  - D) Leukemia
15. A 28-year-old female presents with a fever, sore throat, and swollen lymph nodes in her neck. On physical examination, she has tonsillar exudates and cervical lymphadenopathy. A rapid streptococcal antigen test is positive. What is the most likely causative organism for her condition?
- A) *Staphylococcus aureus*
  - B) *Streptococcus pneumoniae*
  - C) *Streptococcus pyogenes* (Group A Streptococcus)
  - D) *Haemophilus influenzae*

16. A 45-year-old male presents with a history of intravenous drug use and is experiencing fever, chills, and night sweats. He reports a cough with rusty-colored sputum and pleuritic chest pain. Chest X-ray reveals a lobar consolidation. What is the most likely pathogen responsible for his condition?
- A) *Mycobacterium tuberculosis*
  - B) *Streptococcus pneumoniae*
  - C) *Staphylococcus aureus*
  - D) *Pseudomonas aeruginosa*
17. A 22-year-old sexually active female presents with lower abdominal pain, fever, and vaginal discharge. On pelvic examination, cervical motion tenderness is noted. Gram stain of vaginal discharge shows intracellular gram-negative diplococci. What is the most likely causative organism for her condition?
- A) *Neisseria gonorrhoeae*
  - B) *Chlamydia trachomatis*
  - C) *Trichomonas vaginalis*
  - D) *Candida albicans*
18. A 60-year-old male with a history of diabetes presents with a non-healing foot ulcer. Physical examination reveals a foul-smelling wound with a greenish discharge and surrounding erythema. Wound culture grows gram-negative rods. What is the most likely pathogen responsible for this wound infection?
- A) *Staphylococcus aureus*
  - B) *Streptococcus pyogenes*
  - C) *Pseudomonas aeruginosa*
  - D) *Escherichia coli*
19. A 55-year-old male with a history of hypertension and smoking presents with sudden-onset severe chest pain radiating to the left arm. An electrocardiogram (ECG) shows ST-segment elevation in multiple leads. What is the most likely diagnosis?
- A) Myocardial infarction
  - B) Angina pectoris
  - C) Pericarditis
  - D) Aortic dissection
20. A 40-year-old female presents with lower leg pain, swelling, and erythema. She reports a recent long-haul flight. On examination, there is tenderness along the calf muscles. What is the most likely diagnosis?
- A) Deep vein thrombosis (DVT)
  - B) Peripheral artery disease (PAD)
  - C) Cellulitis
  - D) Compartment syndrome

21. A 60-year-old male with a history of chronic liver disease presents with ascites and lower extremity edema. Laboratory tests reveal low serum albumin levels. What is the most likely underlying cause of his ascites and edema?
- A) Right-sided heart failure
  - B) Nephrotic syndrome
  - C) Portal hypertension
  - D) Hypoalbuminemia
22. A 60-year-old male presents with a chronic cough, weight loss, and fatigue. Imaging reveals a solitary pulmonary nodule in the upper lobe of the right lung. Biopsy shows small, round cells with dense, blue cytoplasm. What is the most likely diagnosis?
- A) Squamous cell carcinoma
  - B) Adenocarcinoma
  - C) Small cell lung carcinoma
  - D) Non-small cell lung carcinoma
23. A 45-year-old female presents with a productive cough, fever, and pleuritic chest pain. Chest X-ray shows a lobar consolidation with air bronchograms. What is the most likely diagnosis?
- A) Tuberculosis
  - B) Bronchitis
  - C) Pneumonia
  - D) Pulmonary embolism
24. Which of the following conditions is characterized by the deposition of IgA immune complexes in the renal mesangium?
- A) Minimal Change Disease
  - B) Membranous Nephropathy
  - C) IgA Nephropathy (Berger's Disease)
  - D) Focal Segmental Glomerulosclerosis (FSGS)
25. What is the most common cause of acute tubulointerstitial nephritis (TIN)?
- A) Bacterial Infection
  - B) Nonsteroidal Anti-Inflammatory Drugs (NSAIDs)
  - C) Hypertension
  - D) Diabetes Mellitus

26. Which renal tumor is often associated with a "classic triad" of symptoms including hematuria, flank pain, and a palpable abdominal mass?
- A) Renal Cell Carcinoma
  - B) Wilms Tumor (Nephroblastoma)
  - C) Transitional Cell Carcinoma (TCC)
  - D) Oncocytoma
27. Which renal disorder is characterized by the presence of multiple, bilateral renal cysts, often leading to enlarged kidneys?
- A) Acute Glomerulonephritis .
  - B) Polycystic Kidney Disease (PKD)
  - C) Diabetic Nephropathy
  - D) Focal Segmental Glomerulosclerosis (FSGS)
28. Which glomerular disease is characterized by "spike and dome" appearance on electron microscopy and subepithelial humps on immune electron microscopy?
- A) Membranous Nephropathy
  - B) IgA Nephropathy (Berger's Disease)
  - C) Alport Syndrome
  - D) Goodpasture Syndrome
29. What is the primary histological feature of chronic obstructive pulmonary disease (COPD)?
- A) Bronchiolar constriction
  - B) Alveolar wall destruction
  - C) Bronchiectasis
  - D) Pulmonary embolism
30. Which of the following is a common etiological agent responsible for community-acquired pneumonia?
- A) Mycobacterium tuberculosis
  - B) Streptococcus pneumoniae
  - C) Pseudomonas aeruginosa
  - D) Legionella pneumophila

31. Which of the following conditions is characterized by the presence of granulomatous inflammation and non-caseating granulomas in the lungs?
- A) Tuberculosis
  - B) Sarcoidosis
  - C) Pneumonia
  - D) Lung cancer
32. Which of the following conditions is characterized by an abnormal increase in bone resorption, resulting in weakened and deformed bones?
- A) Osteoporosis
  - B) Osteomalacia
  - C) Paget's Disease
  - D) Osteosarcoma
33. Which bone pathology is characterized by inflammation of the synovial membrane, leading to pain and stiffness, often affecting the small joints of the hands and feet?
- A) Osteoporosis
  - B) Osteomalacia
  - C) Osteoarthritis
  - D) Rheumatoid Arthritis
34. Which bone pathology is characterized by reduced bone density and usually seen in old individuals?
- A) Osteoporosis
  - B) Osteomalacia
  - C) Paget's Disease
  - D) Osteochondroma
35. Which of the following bone pathologies is associated with a deficiency in vitamin D, calcium, or phosphate, leading to inadequate mineralization of bone matrix?
- A) Osteoporosis
  - B) Osteomalacia
  - C) Osteosarcoma
  - D) Osteochondroma

36. Which of the following conditions is characterized by the presence of endometrial tissue outside the uterus, often causing pelvic pain and infertility?
- A) Polycystic Ovarian Syndrome (PCOS)
  - B) Endometriosis
  - C) Ovarian Cyst
  - D) Fibroids
37. Which of the following sexually transmitted infections (STIs) can lead to the development of cervical dysplasia and cervical cancer in women?
- A) Herpes Simplex Virus (HSV)
  - B) Chlamydia trachomatis
  - C) Human Papillomavirus (HPV)
  - D) Syphilis
38. Which gynecological disorder is characterized by the presence of multiple cysts in the ovaries, irregular menstrual cycles, and hormonal imbalances?
- A) Endometriosis
  - B) Ovarian Cancer
  - C) Polycystic Ovarian Syndrome (PCOS)
  - D) Uterine Fibroids
39. Which of the following conditions is characterized by the inflammation and infection of the fallopian tubes and may lead to pelvic inflammatory disease (PID)?
- A) Endometriosis
  - B) Polycystic Ovarian Syndrome (PCOS)
  - C) Ovarian Cyst
  - D) Salpingitis

40. Which of the following liver diseases is characterized by the deposition of excess fat within hepatocytes, often associated with alcohol abuse or metabolic factors?
- A) Cirrhosis
  - B) Hepatitis B
  - C) Non-Alcoholic Fatty Liver Disease (NAFLD)
  - D) Hemochromatosis
41. Which liver pathology is characterized by the replacement of normal liver tissue with nodules and fibrous tissue, often leading to liver dysfunction?
- A) Hepatitis C
  - B) Liver Cirrhosis
  - C) Alcoholic Hepatitis
  - D) Wilson's Disease
42. Which biliary system pathology is characterized by the presence of gallstones in the gallbladder, leading to pain, inflammation, and potential complications?
- A) Cholecystitis
  - B) Hepatitis A
  - C) Liver Cirrhosis
  - D) Pancreatitis
43. A genetic disorder characterized by a deficiency in an enzyme responsible for the breakdown of bilirubin, leading to jaundice and increased bilirubin levels in the blood. Which is the most likely diagnosis?
- A) Cirrhosis
  - B) Hemochromatosis
  - C) Gilbert's Syndrome
  - D) Alcoholic Liver Disease
44. Which of the following conditions is characterized by an autoimmune destruction of the intrahepatic bile ducts, leading to cholestasis and liver damage?
- A) Cirrhosis
  - B) Primary Biliary Cholangitis (PBC)
  - C) Non-Alcoholic Fatty Liver Disease (NAFLD)
  - D) Hepatitis A



45. Which of the following gastrointestinal diseases is characterized by the chronic inflammation of the mucosal and submucosal layers of the colon, typically with alternating periods of remission and exacerbation?
- A) Crohn's Disease
  - B) Ulcerative Colitis
  - C) Irritable Bowel Syndrome (IBS)
  - D) Diverticulitis
46. Which of the following conditions is characterized by the presence of small, finger-like projections in the colonic mucosa, often associated with chronic inflammation and an increased risk of colorectal cancer?
- A) Colon Polyps
  - B) Diverticulosis
  - C) Crohn's Disease
  - D) Colonic Adenocarcinoma
47. Which gastrointestinal pathology is characterized by the destruction of the mucosal lining of the stomach, often due to the presence of *Helicobacter pylori* bacteria or the use of non-steroidal anti-inflammatory drugs (NSAIDs)?
- A) Peptic Ulcer Disease (PUD)
  - B) Gastritis
  - C) Gastroesophageal Reflux Disease (GERD)
  - D) Celiac Disease
48. A 30 years old patient has symptoms like heartburn and regurgitation which is because of the protrusion of a portion of the stomach through the diaphragm. What will be the most likely diagnosis?
- A) Gastric Ulcer
  - B) Hiatal Hernia
  - C) Gastroenteritis
  - D) Pancreatitis
49. Which gastrointestinal pathology is characterized by chronic inflammation and damage to the lining of the esophagus, often resulting from chronic acid reflux?
- A) Diverticulitis
  - B) Barrett's Esophagus
  - C) Irritable Bowel Syndrome (IBS)
  - D) Peptic Ulcer Disease (PUD)

50. Which lymphoreticular disorder is characterized by the proliferation of abnormal lymphocytes, often causing lymph node enlargement and associated with Reed-Sternberg cells?
- A) Hodgkin Lymphoma
  - B) Non-Hodgkin Lymphoma
  - C) Multiple Myeloma
  - D) Leukemia
51. Abnormal proliferation of plasma cells and the overproduction of monoclonal immunoglobulins which often leading to bone pain and susceptibility to infections. All are the characteristic features of:
- A) Hodgkin Lymphoma
  - B) Non-Hodgkin Lymphoma
  - C) Multiple Myeloma
  - D) Acute Lymphoblastic Leukemia
52. Which lymphoreticular disorder is characterized by the presence of abnormal T lymphocytes with cerebriform nuclei, often involving the skin and causing pruritic lesions?
- A) Hodgkin Lymphoma
  - B) Non-Hodgkin Lymphoma
  - C) Mycosis Fungoides
  - D) Chronic Lymphocytic Leukemia (CLL)
53. What is the primary purpose of apoptosis in multicellular organisms?
- A) Tissue repair
  - B) Tissue regeneration
  - C) Tissue remodeling
  - D) Tissue inflammation
54. Which of the following neuropathological conditions is characterized by the presence of abnormal protein aggregates, including tau and beta-amyloid, leading to memory loss and cognitive decline?
- A) Alzheimer's Disease
  - B) Multiple Sclerosis
  - C) Parkinson's Disease
  - D) Amyotrophic Lateral Sclerosis (ALS)

55. Which neuropathological condition is characterized by the autoimmune destruction of myelin in the central nervous system, leading to the formation of plaques and impaired nerve signaling?
- A) Guillain-Barré Syndrome
  - B) Huntington's Disease
  - C) Multiple Sclerosis
  - D) Cerebral Palsy
56. Which of the following is a hallmark feature of apoptosis?
- A) Cellular swelling
  - B) Membrane rupture
  - C) Nuclear fragmentation
  - D) Increased cell size
57. Which skin condition is characterized by red, scaly plaques with silvery scales and is associated with epidermal hyperproliferation and inflammation?
- A) Psoriasis
  - B) Eczema (Dermatitis)
  - C) Basal Cell Carcinoma
  - D) Melanoma
58. A 38 years old female patient has skin condition which is characterized by the presence of itchy, raised, red wheals, often triggered by allergens or stress. What it could be?
- A) Psoriasis
  - B) Eczema (Dermatitis)
  - C) Urticaria (Hives)
  - D) Actinic Keratosis
59. Which soft tissue tumor is characterized by a spindle cell morphology and often involves the extremities, including the lower limbs?
- A) Rhabdomyosarcoma
  - B) Liposarcoma
  - C) Fibrosarcoma
  - D) Leiomyosarcoma

60. A 11 years old boy presents as a painless mass in left knee which is associated with a translocation involving the SYT gene on chromosome 18 and the SSX gene on the X chromosome. Which is the most likely diagnosis?
- A) Rhabdomyosarcoma                      B) Liposarcoma  
C) Synovial Sarcoma                      D) Fibrosarcoma
61. A 15 Years old boy presented with soft tissue swelling in thigh. On histopathological examination tumor is characterized by the presence of small, blue, round cells with subtypes including alveolar and embryonal. What will be the most likely diagnosis?
- A) Dermatofibrosarcoma Protuberans  
B) Ewing Sarcoma  
C) Angiosarcoma  
D) Gastrointestinal Stromal Tumor (GIST)
62. Which soft tissue tumor often presents as a slow-growing, firm, and painless nodule, and is characterized by the presence of the COL1A1-PDGFB gene fusion?
- A) Leiomyosarcoma  
B) Dermatofibrosarcoma Protuberans  
C) Alveolar Soft Part Sarcoma  
D) Rhabdomyosarcoma
63. A 45 years old male patient presented with swelling in the tendon sheath of the thumb of right. On histopathological examination, it was soft tissue tumor with the presence of multinucleated giant cells. What will be the most likely diagnosis?
- A) Synovial Sarcoma  
B) Giant Cell Tumor of Tendon Sheath  
C) Fibromatosis (Desmoid Tumor)  
D) Kaposi Sarcoma
64. A 55-year-old male smoker presents with a chronic cough and hemoptysis. A bronchial washings cytology specimen shows clusters of atypical, columnar epithelial cells with abundant mucin production and occasional cilia. What is the most likely diagnosis?
- A) Squamous Cell Carcinoma  
B) Adenocarcinoma  
C) Small Cell Lung Carcinoma  
D) Carcinoid Tumor

65. A 30-year-old female presents with irregular menstrual bleeding. An endometrial biopsy cytology specimen shows crowded, irregular glands with enlarged nuclei, prominent nucleoli, and increased mitotic activity. What is the most likely diagnosis?
- A) Endometrial Hyperplasia
  - B) Endometrial Carcinoma
  - C) Cervical Dysplasia
  - D) Leiomyoma
66. A 50-year-old man presents with painless hematuria. Urine cytology reveals clusters of large, hyperchromatic, and irregularly shaped cells with high nuclear-cytoplasmic ratios. What is the most likely diagnosis?
- A) Benign Prostatic Hyperplasia (BPH)
  - B) Transitional Cell Carcinoma (TCC) of the Bladder
  - C) Renal Cell Carcinoma (RCC)
  - D) Prostate Cancer
67. A 65-year-old woman presents with a thyroid nodule. Fine-needle aspiration cytology (FNAC) reveals enlarged thyroid follicular cells with uniform nuclei, arranged in microfollicular patterns. What is the most likely diagnosis?
- A) Papillary Thyroid Carcinoma
  - B) Follicular Neoplasm
  - C) Medullary Thyroid Carcinoma
  - D) Anaplastic Thyroid Carcinoma
68. What is the term for an adverse reaction that occurs when a patient's immune system reacts against transfused blood components?
- A) Hemolysis
  - B) Serology
  - C) Hemostasis
  - D) Transfusion Reaction
69. Which blood type is considered the universal recipient because they can receive blood from donors of any ABO blood type?
- A) A+
  - B) O-
  - C) AB+
  - D) B-

70. Which blood component is responsible for clotting and preventing excessive bleeding?
- A) Red Blood Cells (RBCs)
  - B) Platelets
  - C) Plasma
  - D) White Blood Cells (WBCs)
71. What is the term for a type of transfusion in which a patient's own blood is collected, stored, and later transfused back to them?
- A) Autologous Transfusion
  - B) Allogeneic Transfusion
  - C) Homologous Transfusion
  - D) Directed Donor Transfusion
72. Which of the following genetic mutations is associated with the development of cystic fibrosis?
- A) BRCA1
  - B) CFTR
  - C) APC
  - D) TP53
73. Which genetic alteration is a hallmark of chronic myeloid leukemia (CML) and is characterized by the reciprocal translocation  $t(9;22)(q34;q11)$ ?
- A) EGFR Mutation
  - B) FLT3 Mutation
  - C) BCR-ABL Fusion Gene
  - D) KRAS Mutation
74. Which genetic alteration is associated with the majority of cases of familial adenomatous polyposis (FAP) and results in the inactivation of the APC (adenomatous polyposis coli) gene?
- A) BRCA1 Mutation
  - B) RET Proto-oncogene Mutation
  - C) TP53 Mutation
  - D) APC Mutation

75. Which genetic alteration is frequently observed in non-small cell lung cancer (NSCLC) and is associated with the use of targeted therapies such as tyrosine kinase inhibitors (TKIs)?
- A) HER2 Amplification
  - B) KRAS Mutation
  - C) ALK Rearrangement
  - D) BRCA1 Mutation
76. Which genetic alteration is commonly seen in colorectal cancer and leads to the accumulation of  $\beta$ -catenin and activation of the Wnt signaling pathway?
- A) HER2 Amplification
  - B) KRAS Mutation
  - C) APC Mutation
  - D) BCR-ABL Fusion Gene
77. Which of the following terms refers to a benign neoplasm composed of glandular tissue?
- A) Sarcoma
  - B) Carcinoma
  - C) Adenoma
  - D) Lymphoma
78. Which of the following is a common risk factor for the development of neoplasia?
- A) Regular Exercise
  - B) Tobacco Use
  - C) Dietary Fiber Intake
  - D) Adequate Sleep
79. Which of the following is a feature commonly seen in dysplastic cells?
- A) Normal Cellular Architecture
  - B) Decreased Nuclear-Cytoplasmic Ratio
  - C) Uniform Cell Size and Shape
  - D) Loss of Cellular Differentiation

80. Which of the following is a proto-oncogene that, when mutated or overexpressed, can contribute to the development of cancer?
- A) Tumor Suppressor Gene
  - B) BRCA1
  - C) p53
  - D) Ras
81. Which staining technique is commonly used in histopathology to visualize cell nuclei and assess nuclear morphology?
- A) Immunohistochemistry (IHC)
  - B) Hematoxylin and Eosin (H and E)
  - C) Periodic Acid-Schiff (PAS)
  - D) Masson's Trichrome Stain
82. In histopathology, what does the term "hyperplasia" refer to?
- A) Abnormal tissue growth characterized by the presence of atypical cells
  - B) An increase in the size of individual cells
  - C) An increase in the number of cells in a tissue or organ
  - D) The conversion of normal cells into cancerous cells
83. Which histopathological feature is characteristic of necrotic tissue?
- A) Increased cellularity
  - B) Pyknotic nuclei
  - C) Normal tissue architecture
  - D) Preservation of cellular details
84. Which staining technique is commonly used in histopathology to highlight collagen fibers and assess tissue fibrosis?
- A) Hematoxylin and Eosin (H and E)
  - B) Periodic Acid-Schiff (PAS)
  - C) Masson's Trichrome Stain
  - D) Giemsa Stain



85. Most common cause of thrombocytopenia in children is:
- A) Aplastic anemia
  - B) ITP
  - C) TIP
  - D) Drug induced
86. Which of the following statement is true about von Willebrand factor?
- A) It cross links platelet to each other
  - B) It is functional in large multimeric form
  - C) Plasma VWF is derived from platelets
  - D) It carries factor IX
87. All of the following are risk factors for disseminated intravascular clotting (DIC) except:
- A) Abruptio placentae
  - B) Snake bite
  - C) Amniotic fluid embolism
  - D) Major orthopedic surgery
88. Which one of the following statements is true regarding factor V Leiden gene mutation?
- A) In Caucasians the incidence of factor V Leiden is 5%
  - B) Individuals have an increased risk of bleeding
  - C) Homozgous or heterozygous state carries the same risk
  - D) Factor V Leiden mutation is the most common cause of APCR resistance
89. Which one of the following tests is not done in the evaluation of thrombophilia?
- A) PT and APTT
  - B) Anticardiolipin and anti-B2GPI antibodies
  - C) Serum cholestrol
  - D) Protein C and S assay
90. Osmotic fragility [OF] is decreased in:
- A) Hereditary Spherocytosis [HS]
  - B) Hereditary elliptocytosis
  - C) Hereditary xerocytosis
  - D) Hereditary stomatocytosis/hydrocytosis

91. Which of the following matching option is correct?

- |                            |                               |
|----------------------------|-------------------------------|
| 1. Pincer red cell -       | a) Myelofibrosis              |
| 2. Acanthocytic red cell - | b) Band 3 defect - HS         |
| 3. Prickle cell -          | c) b-spectrin defect - HS     |
| 4. Dacryocyte -            | d) Pyruvate kinase deficiency |

- A) 1 - a, 2 - c, 3 - b, 4 - d  
B) 1 - b, 2 - c, 3 - d, 4 - a  
C) 1 - a, 2 - c, 3 - d, 4 - b  
D) 1 - d, 2 - b, 3 - a, 4 - c

92. The duffy blood group system is functionally associated with:

- A) Invasion by *P. falciparum*  
B) Red cell urea transporter  
C) Maintenance of membrane integrity  
D) Invasion by *Plasmodium vivax*

93. Which statement is correct regarding the sickling test?

- A) It can differentiate sickle cell trait from sickle cell anaemia  
B) It can be used for primary diagnosis of Hb SS  
C) It can quantify HbS  
D) None of the above

94. Which of the following histopathological findings is characteristic of idiopathic pulmonary fibrosis (IPF)?

- A) Honeycomb lung  
B) Caseating granulomas  
C) Non-caseating granulomas  
D) Hyaline membrane formation

95. Which of the following lung tumors is most commonly associated with smoking?

- |                            |                         |
|----------------------------|-------------------------|
| A) Adenocarcinoma          | B) Small cell carcinoma |
| C) Squamous cell carcinoma | D) Carcinoid tumor      |

96. Which of the following is a characteristic histological feature of bronchial asthma?
- A) Charcot-Leyden crystals
  - B) Ghon complex
  - C) Caseating granulomas
  - D) Reed-Sternberg cells
97. Which of the following is the primary causative agent responsible for tuberculosis in humans?
- A) *Mycobacterium leprae*
  - B) *Mycobacterium tuberculosis*
  - C) *Mycobacterium avium-intracellulare*
  - D) *Mycobacterium bovis*
98. Which type of hypersensitivity reaction is primarily responsible for the tissue damage in tuberculosis?
- A) Type I (Immediate) Hypersensitivity
  - B) Type II (Cytotoxic) Hypersensitivity
  - C) Type III (Immune Complex-Mediated) Hypersensitivity
  - D) Type IV (Delayed-Type) Hypersensitivity
99. Which of the following is a common extrapulmonary manifestation of tuberculosis?
- A) Tuberculous pleuritis
  - B) Pulmonary cavitations
  - C) Diffuse alveolar damage
  - D) Bacterial pneumonia
100. The diagnostic test considered the gold standard for confirming the diagnosis of active pulmonary tuberculosis is:
- A) Tuberculin skin test (TST)
  - B) Chest X-ray
  - C) Sputum culture for acid-fast bacilli (AFB)
  - D) Interferon-gamma release assay (IGRA)

# ROUGH WORK

# ROUGH WORK

AL

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO

Booklet Serial No. **215265**

Test Booklet Series

TEST BOOKLET  
OPHTHALMOLOGY  
Written Test - 2023  
(71)

A

Time Allowed: Two Hours

Maximum Marks: 100

**INSTRUCTIONS**

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2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.   
**DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
6. **All** items carry equal marks.
7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use **"ONLY BALL POINT PEN"**.
11. **Penalty for wrong answers:**  
**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
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(71) (A)/2023

[P.T.O.]

(71) (A)

(2)

1. A thickened arrangement of connective tissue bands between the inferior oblique and inferior rectus is known as:
  - A) Muller's muscle
  - B) The suspensory ligament of Lockwood
  - C) The accessory muscle of Wolfring
  - D) Periorbital fascia
  
2. The following vessels are end branches of the ophthalmic artery:
  - A) Dorsal nasal and supratrochlear branches
  - B) Infratrochlear branch
  - C) Zygomaticofacial branch
  - D) Lacrimal artery branch
  
3. Which of the following cranial nerves is not affected by a cerebellopontine angle mass?
  - A) Oculomotor nerve
  - B) Ophthalmic division of trigeminal nerve
  - C) Facial nerve
  - D) Vestibulocochlear nerve
  
4. Which of the following structures divides the two lobes of the lacrimal gland?
  - A) Levator aponeurosis
  - B) Orbicularis oculi
  - C) Tarsal plate
  - D) Superior oblique
  
5. When produced, aqueous humour passes out through the membranes of:
  - A) Trabecular meshwork
  - B) Corneal endothelial cells
  - C) Non-pigmented cells of the ciliary body
  - D) Pigmented cells of the ciliary body



6. Within the retina, dopamine is present in:
- A) Amacrine cells
  - B) Retinal pigment epithelium
  - C) Muller cells
  - D) Ganglion cells
7. The Bezold-Bricke phenomenon describes which of the following?
- A) All hues appear yellow-white as the luminosity increases
  - B) All hues appear yellow-white as the luminosity decreases
  - C) All hues appear achromatic as the intensity increases
  - D) All hues appear achromatic as the intensity decreases
8. Motion blindness occurs because of:
- A) Lesions in the frontal lobe
  - B) Lesions in the temporal gyrus
  - C) Lesions in the superior temporal sulcus
  - D) Lesions in the inferior temporal sulcus
9. What percentage of ganglion cell axons pass within the parvocellular pathway?
- A) 20%
  - B) 40%
  - C) 60%
  - D) 80%
10. During caloric testing, cold water is irrigated in the right ear. Which direction is the fast phase of nystagmus?
- A) Up
  - B) Down
  - C) Left
  - D) Right

11. Which of the following structures has the highest lipid content?
- A) Retina
  - B) Choroid
  - C) Lens
  - D) Cornea
12. Optic nerve glioma are associated with:
- A) Neurofibromatosis type 1
  - B) Sturge-Weber syndrome
  - C) Tuberous sclerosis
  - D) Von Hippel-Lindau syndrome
13. Bergmeister's papilla is a remnant of which of the following structures?
- A) Lens placode
  - B) Hyaloid artery
  - C) Pupillary membrane
  - D) Paraxial mesoderm
14. Zonules are derived from which of the following stages of vitreous development?
- A) Primary vitreous
  - B) Secondary vitreous
  - C) Tertiary vitreous
  - D) Quaternary vitreous
15. After conception, when do the optic cups first appear?
- A) Day 23
  - B) Day 25
  - C) Day 27
  - D) Day 33

16. Which of the following methods of assessing visual acuity is most appropriate in a normally developing 3-year-old?
- A) LogMAR chart
  - B) Kay's pictures
  - C) Cardiff cards
  - D) Fix and follow
17. When does the eyeball reach its maximum size?
- A) 3 years
  - B) 8 years
  - C) 18 years
  - D) Grows throughout life
18. The spherical equivalent of a lens with power +3.00 DS/-2.00 DC is:
- A) +1.00 DS
  - B) +2.00 DS
  - C) -0.50 DS
  - D) -1.00 DS
19. Keratoconus can cause:
- A) Axial myopia
  - B) Refractive myopia
  - C) Axial hypermetropia
  - D) Refractive hypermetropia
20. Patients with very pigmented irides dilate poorly with atropine due to:
- A) First-order kinetics
  - B) Zero-order kinetics
  - C) Active transport
  - D) Tissue binding

21. Use of which of the following medications is associated with development of cataract?
- |               |                    |
|---------------|--------------------|
| A) Ethambutol | B) Amiodarone      |
| C) Vigabatrin | D) Glucocorticoids |
22. A pharmaceutical company is developing a new topical drug for lowering intraocular pressure. They wish to assess its safety in human volunteers. After gaining permission, which phase of clinical trial will they be embarking upon?
- A) Phase 1 trial  
 B) Phase 2 trial  
 C) Phase 3 trial  
 D) Phase 4 trial
23. To assess whether and to what extent HbA<sub>1c</sub> relates to plasma triglyceride levels, which of the following would be the most appropriate statistical test?
- A) Spearman's rank correlation coefficient  
 B) Pearson's correlation coefficient  
 C) Fisher's exact test  
 D) Chi-squared test
24. When does the choroidal (pre-arterial) phase of the fluorescein angiogram normally occur?
- |               |               |
|---------------|---------------|
| A) 4 seconds  | B) 8 seconds  |
| C) 16 seconds | D) 20 seconds |
25. Using a streak retinoscope with the shaft down and a working distance of 0.5 m, in a high hypermetrope:
- A) The luminous reflex will move in the same direction as the retinoscopy movement  
 B) The luminous reflex will move in the opposite direction to the retinoscopy movement  
 C) Scissoring reflex will be seen  
 D) Oil-droplet reflex will be seen

26. Optical coherence tomography typically uses:
- A) Ultraviolet B
  - B) Green light
  - C) Infrared light
  - D) Microwaves
27. Therapeutic lasers used in ophthalmology are classified as:
- A) Class 1
  - B) Class 0
  - C) Class 3b or 4
  - D) Class 2 or 3a
28. Which of the following antibiotics has good ocular penetration when given orally:
- A) Ciprofloxacin
  - B) Co-amoxiclav
  - C) Cephalexin
  - D) Cephradine
29. Which of the following statements is true about photoreceptors?
- A) Complete rod outer segment renewal takes around 21 days
  - B) Photoreceptor turnover occurs in a diurnal manner
  - C) Photoreceptors utilise glucose exclusively anaerobically
  - D) Cone phagocytosis appears to occur in a sequential manner
30. Which one of the following statements is true regarding retinal pigment epithelial cells?
- A) Turnover is rapid
  - B) They express leucocyte marker CD40
  - C) They possess GLUT-1 and -3 receptors
  - D) They synthesise IL-2 regularly.

31. At what gestational age does myelination of the optic nerve start?
- A) Week 10
  - B) Week 16
  - C) Month 5
  - D) Month 7
32. Which of the following is used for the culture of Mycobacterium tuberculosis?
- A) Löwenstein-Jensen(LJ) medium
  - B) MacConkey agar
  - C) Sabouraud's agar
  - D) Theyer-Martin medium
33. By what mechanism does botulinum toxin A inhibit neurotransmission?
- A) Acetylcholine receptor antagonism
  - B) Blockade of postsynaptic sodium channels
  - C) Inhibition of acetylcholine exocytosis
  - D) Intracellular blockade of acetylcholine production
34. Which one of the following is not a test of stereoacuity?
- A) Cardiff cards
  - B) Frisby
  - C) Titmus
  - D) Worth 4-dot
35. What percentage of uveal tract melanomas arise from the ciliary body?
- A) 12%
  - B) 24%
  - C) 36%
  - D) 48%

36. Which of the following does not describe typical corneal arcus?
- A) Age-related
  - B) Fatty degeneration
  - C) Stromal lipid deposition
  - D) Unilateral
37. Neurones from the optic radiations terminate in which layer of the primary visual cortex?
- A) 1
  - B) 2
  - C) 3
  - D) 4
38. Which glycosaminoglycan is thought to be most important in maintaining corneal clarity?
- A) Chondroitin sulphate
  - B) Dermatan sulphate
  - C) Heparan sulphate
  - D) Keratan sulphate
39. Which of the following eye movements is disconjugate?
- A) Saccadic eye movements
  - B) Smooth pursuit movements
  - C) Vergence movements
  - D) Vestibulo-ocular movements
40. In a clinical study what is the correct definition of a type II error?
- A) Failing to reject the null hypothesis when it is false
  - B) Failing to reject the null hypothesis when it is true
  - C) Rejecting the null hypothesis when it is false
  - D) Rejecting the null hypothesis when it is true





46. Regarding neurotransmitters in the retina, which of the following statements is false?
- A) GABA is an inhibitory transmitter
  - B) Glycine is an excitatory transmitter
  - C) L-aspartate is an excitatory transmitter
  - D) Acetylcholine is an excitatory transmitter
47. A corneal specimen from a patient with Avellino dystrophy would stain with the following:
- A) Masson trichrome and Alcian blue
  - B) Congo red and Masson trichrome
  - C) Congo red and Alcian blue
  - D) Congo red and Alizarin red
48. Which of the following is true regarding acute graft rejection?
- A) It is predominantly antibody mediated
  - B) It is predominantly cell mediated
  - C) Corneal graft rejection is an example of type 2 hypersensitivity
  - D) HLA class II matching is routinely performed in corneal transplantation
49. Glucocorticoids act via:
- A) G-protein coupled receptors
  - B) Cytosolic receptors
  - C) Ligand-gated ion channels
  - D) Receptors with protein-tyrosine-kinase activity
50. The power of a laser is most likely to be increased by:
- A) Decreasing the shutter speed
  - B) Being in continuous waveform
  - C) Being in fundamental mode
  - D) Q-switching

51. Which of the following is not a contact lens:
- A) Koeppe lens
  - B) Rodenstock lens
  - C) Hruby lens
  - D) Mainster lens
52. A disadvantage of the Tone-Pen is that:
- A) It can only be used once
  - B) It requires extensive training to use
  - C) It is less accurate than the Goldmann tonometer
  - D) It requires a mains electrical connection
53. What is the approximate prevalence of blindness in developed countries?
- A) 0.01%
  - B) 0.2%
  - C) 1%
  - D) 3%
54. Which of the following genes is associated with age-related macular degeneration?
- A) Complement factor H gene
  - B) BEST1 gene
  - C) ABCA4 gene
  - D) RPE65 gene
55. Which of the following blood tests does not have positive predictive value for temporal arteritis?
- A) Elevated platelet count
  - B) Elevated erythrocyte sedimentary rate (ESR)
  - C) Elevated eosinophil count
  - D) Elevated C-reactive protein (CRP)

56. Which of the following ocular manifestations may be seen in Tabes Dorsalis?
- A) Internal ophthalmoplegia
  - B) Argyll Robertson pupil
  - C) Optic atrophy
  - D) Papilledema
57. Which of the following is the nucleus for upward gaze?
- A) Raphe nucleus
  - B) Cuneiform nucleus
  - C) Interstitial nucleus of cajal
  - D) PPRF
58. All of the following are tests for colour blindness except:
- A) Hardy-Rand-Rittler test
  - B) Holmgren's wool test
  - C) Lantern test
  - D) Goldmann-weekes test
59. Pupil in a newborn is:
- A) Constricted
  - B) Mid-dilated
  - C) Dilated
  - D) Any of the above
60. Water content of a lens is:
- A) 64%
  - B) 25%
  - C) 1%
  - D) 28%

61. Tonometry with variation in appplanation surface:
- A) Maklakov tonometer
  - B) Draeger tonometer
  - C) Rebound tonometer
  - D) MacKay-Margtonometer
62. Contraction of visual field is seen with which anticonvulsant?
- A) Ethosuxamide
  - B) Phenobarbitone
  - C) Valproate
  - D) Vigabatrin
63. Uveoparotitis is seen in which of the following disorders
- A) Scleroderma
  - B) Syphilis
  - C) Sarcoidosis
  - D) SLE
64. Drug used in LUMINATE program of non-infectious uveitis:
- A) Voclosporin
  - B) Methotrexate
  - C) Infliximab
  - D) Cyclosporin
65. Ocular dendritic cell have:
- A) HLA 1
  - B) HLA 2
  - C) Both
  - D) None

66. Hypervirulent *Klebsiella pneumoniae* causes?
- A) Endophthalmitis
  - B) Uveitis
  - C) Keratitis
  - D) Glaucoma
67. Blind spot of Mariotee is:
- A) Fovea Centralis
  - B) Optic disc
  - C) Macula lutea
  - D) Ora serrata
68. Which of the following conditions has an autosomal dominant inheritance:
- A) Gyrate atrophy
  - B) Best Disease
  - C) Lawrance Mood Biedl Syndrome
  - D) Bassen Kornzweig's Disease
69. "Silent choroid" in FFA is a feature of :
- A) Best's disease
  - B) Age related macular degeneration
  - C) Stargardt's disease
  - D) Cystoid macular edema
70. Negative Jones I and Jones II Dye tests indicate:
- A) Primary Hypersecretion of tears
  - B) Partial obstruction of distal nasolacrimal duct
  - C) Lacrimal pump failure
  - D) Partial obstruction of lacrimal canaliculi

71. Tarsal muscles are supplied by?
- A) Ophthalmic nerve
  - B) Nasociliary nerve
  - C) Sympathetic nerves
  - D) Oculomotor nerve
72. Universal marker of limbal epithelial stem cells:
- A) Elastin
  - B) Keratin
  - C) Collagen
  - D) ABCG2
73. Lymphatic drainage is present in which of the following structures:
- A) Choroid
  - B) Iris
  - C) Sclera
  - D) Conjunctiva
74. Which serotype of Enterovirus most commonly causes hemorrhagic conjunctivitis?
- A) Type 7
  - B) Type 70
  - C) Type 11
  - D) Type 23
75. Indications for vitrectomy in patients with diabetic retinopathy include all of the following EXCEPT:
- A) Nonclearing vitreous hemorrhage
  - B) Extramacular tractional retinal detachment
  - C) Combined rhegmatogenous tractional retinal detachment
  - D) Anterior hyaloidal fibrovascular proliferation

76. Macular complications of retinitis pigmentosa include all of the following EXCEPT:
- A) Macular atrophy
  - B) Epiretinal membrane
  - C) CME
  - D) Subretinal scarring
77. A patient developed proptosis and diplopia of 2 months duration following injury. On examination there is chemosis conjunctival redness, and external ocular nerve palsy. Investigation of choice is
- A) MRI
  - B) CECT
  - C) MR angiography
  - D) Intra-arterial digital subtraction angiography
78. Which syndrome includes cranial nerve III palsy, contralateral decreased sensation, and contralateral tremor in the extremities?
- A) Benedikt's syndrome
  - B) Weber's syndrome
  - C) Nothnagel's syndrome
  - D) Tolosa-Hunt syndrome
79. What is the usual cause of hemifacial spasm?
- A) Stroke
  - B) Dry eye
  - C) Facial nerve irritation by an adjacent blood vessel
  - D) Aberrant regeneration following Bell's palsy
80. Where is the cell body of the second order neuron in the sympathetic pathway for the pupil?
- A) Hypothalamus
  - B) Superior cervical ganglion
  - C) Ciliospinal center of Budge (C8-T2)
  - D) Ciliary ganglion

81. Ocular pulsations may be seen in all of the following EXCEPT:
- A) Neurofibromatosis
  - B) Carotid-cavernous sinus fistulas
  - C) Orbitoencephaloceles
  - D) Capillary hemangioma
82. Lhermitte's sign describes:
- A) The decrease in vision with an increase in body temperature
  - B) An electric shock sensation with neck flexion
  - C) The inability to distinguish faces
  - D) The ability to see moving objects but not stationary ones
83. Which treatment in the Optic Neuritis Treatment Trial had the highest rate of recurrence?
- A) Oral prednisone alone
  - B) IV methylprednisolone alone
  - C) IV methylprednisolone and oral prednisone
  - D) Observation
84. An infant presents for evaluation of poor vision. Which one of the following signs is LEAST worrisome?
- A) Eye-popping reflex
  - B) Gazing at bright lights
  - C) Eye rubbing
  - D) Paradoxical pupillary response to light
85. Concentration of Tropicamide used in Retinoscopy
- A) 0.01
  - B) 0.02
  - C) 0.03
  - D) 0.04



86. Against the rule astigmatism is corrected with:
- A) -1.25 D Cyl at 90 degree
  - B) -2 DS
  - C) +2.5/+1.25 D Cyl at 90 degree
  - D) +0.25 D Cyl at 90 degree
87. Ataxia, nystagmus and ophthalmoplegia is seen in:
- A) Myasthenia gravis
  - B) Chronic progressive external ophthalmoplegia
  - C) 3<sup>rd</sup> nerve palsy
  - D) None
88. Left sided lateral gaze is affected in lesion of:
- A) Right frontal lobe
  - B) Right occipital lobe
  - C) Left frontal lobe
  - D) Left occipital lobe
89. Illuminated Frenzel glasses are used for detecting:
- A) Nystagmus
  - B) Heterophoria
  - C) Esotropia
  - D) Astigmatism
90. Oculogyric crisis is known to be produced by all of the following drugs except:
- A) Trifluoperazine
  - B) Atropine
  - C) Perchlorperazine
  - D) Perphenazine

91. Which of the following does not involve lens capsule?
- A) Siderosis bulbi
  - B) Vossius ring
  - C) Glaukomflecken
  - D) Chaicosis bulbi
92. Which of the following anti tubercular drug is associated with cataract:
- A) Isoniazid
  - B) Rifampicin
  - C) Pyrazinamide
  - D) Ethambutol
93. Acquired nasolacrimal duct obstruction is a side effect of which drug:
- A) Timolol
  - B) Brimonidine
  - C) Dorzolamide
  - D) Pilocarpine
94. Which of the following ocular changes are uncommmon in an AIDS patient:
- A) Papilloedema
  - B) Cotton wool spots
  - C) Retinal microaneurysms
  - D) Hard exudates
95. Retinitis pigmentosa is associated with deficiency of:
- A) Docosahexenoic acid
  - B) Eicosapentanoic acid
  - C) Arachidonic acid
  - D) Thromboxane

96. Xerophthalmia is caused by all, except:
- A) Vit C deficiency
  - B) Small bowel resection
  - C) Cystic fibrosis
  - D) Chronic alcoholism
97. Which sinus infection most commonly leads to periorbital cellulitis?
- A) Ethmoidal
  - B) Maxillary
  - C) Sphenoidal
  - D) Frontal
98. Most common type of Optic nerve glioma
- A) Oligodendrocytic
  - B) Fibrous
  - C) Protoplasmic
  - D) Pilocytic
99. Ischaemic necrosis in alkali burn is seen in which clinical stage:
- A) Stage I
  - B) Stage II
  - C) Stage III
  - D) Stage IV
100. Which of the following contains long spaced collagen?
- A) Diaphragm
  - B) Cornea
  - C) Basement membrane
  - D) Tympanic membrane

# ROUGH WORK

# ROUGH WORK

AL

(71) (A)

(24)

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Booklet Serial No: 215561

Test Booklet Series

TEST BOOKLET  
PHYSICAL MEDICINE AND  
REHABILITATION

A

Written Test - 2023

(76)

Time Allowed: Two Hours

Maximum Marks: 100

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(76) (A)/2023

[P.T.O.]

SECRET

(76) (A)

(2)

1. Which of the following is not a commonly accepted criteria of an ideal stump?
  - A) Adequate length
  - B) Limited but pain-free range of motion
  - C) Proper shape
  - D) No significant variation in size
  
2. Which of the following is not a common cause of wrist drop?
  - A) Wrong intra-muscular injection in upper arm
  - B) Tight plaster application
  - C) Rheumatoid arthritis
  - D) Leprosy
  
3. FRO is often prescribed when there is weakness of which of the following muscles?
  - A) Hip flexors
  - B) Hamstrings
  - C) Tibialis anterior
  - D) Quadriceps
  
4. Which of the following part is missing in club foot shoes?
  - A) Throat
  - B) Stay for shoe Laces
  - C) Heel
  - D) Outer border
  
5. Which of the following is not correct about philadelphia collar?
  - A) It is custom-made cervical orthosis.
  - B) It consists of a rear piece with occipital support.
  - C) It also has a front piece with chin support
  - D) It mostly limits flexion and extension movements of cervical spine.



6. Which of the following is not correct about polypropylene?
- A) It is used in fabrication of orthoses.
  - B) It is a durable homopolymer plastic.
  - C) It can be molded at low temperature.
  - D) It can be flexible or rigid depending on the molecular weight.
7. Which of the following intrinsic muscles of the hand are innervated by the median nerve?
- A) Palmar interosseous
  - B) Dorsal interosseous
  - C) 3<sup>rd</sup> and 4<sup>th</sup> lumbricals
  - D) 1<sup>st</sup> and 2<sup>nd</sup> lumbricals
8. Which of the following is not correct about myoelectric prosthetic control systems?
- A) More expensive
  - B) Decreased durability
  - C) Lighter weight
  - D) Stronger grasp force
9. Which of the following is the most common body powered terminal device in upper limb prosthetics?
- A) Voluntary opening type
  - B) Voluntary closing type
  - C) Muenster type
  - D) Krukenberg type
10. Which of the following is not correct statement regarding time frame for upper extremity prosthetic management?
- A) Children: 6-9 months "sit to fit"
  - B) Early: 1 week to 1 month
  - C) Later than 1 month often has best results.
  - D) Immediate in operating room or recovery room also has a role.

11. In human gait cycle terminology, what was earlier called 'foot flat' is now as per new terminology is called by what name?
- A) Loading response
  - B) Initial contact
  - C) Midstance
  - D) Pre-swing
12. Which of the following is not a prosthetic foot?
- A) SACH foot
  - B) Cheetah flex foot
  - C) JAIPUR FOOT
  - D) PTB foot
13. Which of the following is not a component of a Shoe in PMR set up?
- A) Tongue
  - B) Upper
  - C) Heel
  - D) Last
14. Which of the following is the most common acquired upper limb amputation?
- A) Partial hand amputation
  - B) Below-elbow amputation
  - C) Above-elbow amputation
  - D) Amputation of a finger
15. To reduce pain, IFT frequency suitable is
- A) 90-130 Hz
  - B) 0-10 Hz
  - C) 0-30 Hz
  - D) 150-200 Hz

16. Which of the following is not a correct statement?
- A) There are two phases of gait cycle-stance phase and swing phase
  - B) Normal walking on a flat surface generally occurs at about 3 mph (miles per hour)
  - C) Persons with unilateral transtibial amputation usually have about 30% higher oxygen consumption compared to persons without amputation.
  - D) Higher (proximal) the level of amputation, greater is the oxygen consumption.
17. Which of the following is not correct about polio?
- A) Patients may require Orthosis if there is Significant weakness of muscles.
  - B) Any of the limbs and/or spine may be involved.
  - C) There is often weakness, atrophy, and limb length discrepancy.
  - D) Soft padding is often required for protection of skin due to loss of sensations in affected limb.
18. What is the term used for movement between the skin and socket?
- A) Vaulting
  - B) Hiking
  - C) Scissoring
  - D) Pistoning
19. 'Cool-down' following exercise period should last for how much duration?
- A) 10-15 minutes
  - B) 5-8 minutes
  - C) 20-30 minutes
  - D) 2 minutes
20. Which will be the most appropriate spinal Orthosis for a thoracic non-structural curve (around 40°) with apex below T8 Vertebral level?
- A) Boston brace
  - B) Taylor brace
  - C) ASH brace
  - D) Milwaukee brace

21. Ultrasound waves are defined as acoustic vibrations with frequency above what level?
- A) 10,000 Hz
  - B) 12,500 Hz
  - C) 15,000 Hz
  - D) 20,000 Hz
22. Which of the following is the commonly used Wavelength in short wave diathermy?
- A) 7.5 m
  - B) 11 m
  - C) 16 m
  - D) 22 m
23. According to the American Spinal Injury Association (ASIA) international standards for neurological classification of spinal cord Injury, what is the key muscle defining motor level L4?
- A) Peroneus (fibularis) longus
  - B) Extensor hallucis longus
  - C) Vastus medialis
  - D) Tibialis anterior
24. A 57-year-old man sustained a stroke one year ago. He now has good voluntary control of the affected arm, with elbow and shoulder strength at 4/5, wrist extension at 2+/5, finger extension at 2-/5, and fair grip. Tone is minimally increased throughout the arm and sensation is intact. What is the most effective means of improving his hand function?
- A) Electromyographic biofeed back for the wrist extensors.
  - B) Alternating hot and cold stimulation to the affected hand.
  - C) Restraining the unaffected hand during activities of daily living.
  - D) Intensive training of the unaffected hand in one-handed techniques.
25. One week after a patient began a resistance/strengthening program, you note a 15% increase in the force of their maximum voluntary contraction. this is most likely secondary to a change in the.
- A) Number of myofibrils
  - B) Motor unit recruitment pattern
  - C) Number of muscle fibers present
  - D) Fiber density

26. What is the most common diagnosis in young female gymnasts with chronic back pain?
- A) Spondylosis
  - B) Spondylolysis
  - C) Spondylarthritis
  - D) Spondylolisthesis
27. When prescribing cervical traction for a patient with a radiculopathy, in which position the neck is generally placed?
- A) Full extension
  - B) Partial extension
  - C) Full flexion
  - D) Partial flexion
28. The most common specification encountered for determining how long to make a ramp is the ratio.
- A) 1:6
  - B) 1:8
  - C) 1:10
  - D) 1:12
29. Which of the following is correct about standard Adult size wheelchair?
- A) The gap between front of the seat and back of the knees of the wheelchair user should be > 3 inches.
  - B) About 13 degrees of posterior seat tilt is common.
  - C) Footrests should have at least 2 inches of clearance from the floor.
  - D) The standard wheelchair comes with 18-to-22-inch diameter rear wheels.
30. Which of the following orthosis consists of a foot plate, tubular side bars, a back panel extending from sacrum to gluteal folds, and a padded anterior cross-bar at the patellar tendons?
- A) PTB orthosis
  - B) Von Rosen Orthosis
  - C) Parapodium
  - D) Jaipur orthosis

31. A patient suffered from spinal cord injury while engaged in rock climbing and is independent in transfers with assistive devices. What is the most likely level of spinal cord involvement?
- A) T1
  - B) C7
  - C) C6
  - D) C5
32. Which of the following is not correct about crutches?
- A) Standing is the position of choice for measuring forearm crutches.
  - B) From a supported standing position, axillary crutches should be measured from a point half an inch below the axilla.
  - C) Forearm crutches are also known as Lofstrand and canadian crutches.
  - D) During measurement, the distal end of the axillary crutch should be resting at a point 2 inches lateral and 6 inches anterior to the foot.
33. Which of the following is not correct with respect to level of immersion in water and % of weight born in air?
- A) Immersion to umbilicus level=50% of weight bearing in air
  - B) Immersion to pelvis level=80% of weight bearing in air
  - C) Immersion to neck level=10% of weight bearing in air
  - D) Immersion to shoulders= 20-30% of weight bearing in air
34. In post cardiac transplant patients, which of the following is not correct?
- A) Rehabilitation program should focus on education, conditioning, and secondary prevention.
  - B) Peak Heart Rate is typically 20% higher than controls.
  - C) There is generally a delayed heart rate response to exercise
  - D) Typical cardiac transplant patients are middle aged and have suffered months of preoperative deconditioning.
35. Which of the following is not correct about the Gross motor function classification system?
- A) This is a Five-level classification of upper extremity manual dexterity.
  - B) It allows a more universal language for discussing function of people with cerebral palsy.
  - C) It is used to classify the gross motor function of children aged 2-12
  - D) Level I: Ambulatory with no assistive device, indoors and out.

36. Which of the following is not a poor prognostic factor in Rheumatoid Arthritis?
- A) RF+
  - B) Rheumatoid nodules
  - C) X-ray consistent with erosive disease
  - D) Acute onset
37. What is the typical position of immobilization of a mallet finger?
- A) Flexion
  - B) Neutral
  - C) Slight hyperextension
  - D) Maximal hyperextension
38. Which of the following is not correct about skeletal muscle fiber types?
- A) Type I fibers have slow contraction speed.
  - B) Type I fibers have low fatigue resistance.
  - C) Type I and type IIa fibers have aerobic respiration.
  - D) Type I and type IIa fibers have many mitochondria.
39. Which of the following is not correct about the female athlete triad?
- A) It is the combination of disordered eating, amenorrhea, and osteoporosis.
  - B) This disorder is easy to recognize due to its unique manifestations
  - C) Treatment involves a multidisciplinary approach involving th physician, nutritionist,and psychologist.
  - D) It is often the result of maladaptive patterns of diet and exercies adopted in order to improve body image of performance.
40. Which of the following is not an effect of progressive resistance exercieses?
- A) Increased mass and strength.
  - B) Increased cross-sectional area of muscle.
  - C) Increased mitochondrial density per fiber and oxidative capacity.
  - D) Increased type I and type II fiber area

41. Which of the following is not correct about Tethered cord?
- A) It is a defect caused by the abnormal attachment of the spinal cord at its distal end (filum terminale)
  - B) Signs and symptoms can include recent changes in lower-extremity motor strength or sensation; recent changes in functional mobility; and new onset of spasticity, back pain, scoliosis, or bowel or bladder incontinence.
  - C) The average age at diagnosis is 12 years.
  - D) This defect can occur in 11-15% of children after MMC repair.
42. Which of the following is not correct about children with cerebral palsy?
- A) Children with spastic quadriplegia are most prone to seizure followed by those with hemiplegia.
  - B) Children with CP generally have sound sleep without much disturbance.
  - C) Strabismus is a common problem in those with cerebral palsy.
  - D) Learning disorders, attentional difficulties, and psychiatric impairments are more common in children with cerebral palsy.
43. Which description about age-related changes in skeletal muscles is incorrect?
- A) The physical activity level does not affect the changes of skeletal muscles with aging.
  - B) Not only the quantity, but also the quality of muscles, decreases with aging.
  - C) Sarcopenia is the term describing the loss of muscle mass and strength with aging.
  - D) Fast-twitch muscles show more age-related changes than slow-twitch muscles.
44. Which of the following is not correct about the medicine Etanercept?
- A) It is an interleukin 6 (IL-6) antagonist.
  - B) It is a type of biological DMARD agent.
  - C) It is becoming the mainstay of pharmacotherapy for Rheumatoid arthritis.
  - D) These drugs are typically added early on.
45. The range of normal walking velocities for adults is:
- A) 66-70 m/min
  - B) 72-76 m/min
  - C) 78-82 m/min
  - D) 86-90 m/min



46. "Black hole" lesions which are hypointense non enhancing T1 lesions are seen in which of the following disabling conditions?
- A) Acute ischaemic stroke
  - B) Parkinson's disease
  - C) Huntington's disease
  - D) Multiple Sclerosis
47. Which of the following is not correct about side effects of anti-spasticity medications?
- A) Diazepam may cause sedation, impaired attention and memory.
  - B) Clonidine may cause dry mouth, drowsiness, dizziness, constipation, tachycardia, and depression.
  - C) Tizanidine may cause dry mouth, sedation, dizziness, visual hallucinations, elevated liver enzymes, insomnia, and muscle weakness.
  - D) The most important side effect of dantrolene sodium is hepatotoxicity (2%) which may be severe.
48. Which of the following is not correct about deep brain stimulation (DBS)?
- A) It involves stereotactic implantation of electrodes into the basal ganglia.
  - B) A programmable pulse generator is also implanted subcutaneously in the infraclavicular region.
  - C) DBS is considered the treatment of choice in primary dystonias.
  - D) It is often used in people with CP with generalized secondary dystonia (patients with GMFCS levels I-II).
49. Which of the following is not correct about patients with multiple sclerosis?
- A) The pathophysiology of MS is one of peripheral demyelination.
  - B) The most common mood disorder in MS is depression.
  - C) Approximately 40% to 50% of patients report sleep disturbance.
  - D) Fatigue remains one of the most common and debilitating symptoms in MS.
50. Which of the following is not correct about the guidelines for disability evaluation followed in India?
- A) A person with Unilateral below knee amputation up to upper 1/3 gets a disability of 60%
  - B) In persons with acquired dominant upper limb involvement, 10% is added to the disability computed.
  - C) An adult person with a vertical height of 3 feet gets disability certificate of 88%
  - D) A child with cerebral palsy and GMFCS level II gets disability certificate of 40 to 50%.

51. Pain from a stimulus that is normally nonpainful is known as
- A) Hyperaesthesia
  - B) Hyperesthesia
  - C) Summation
  - D) Allodynia
52. Which of the following is not correct about complex regional pain syndrome?
- A) The biggest difference between CRPS in children and adults is that with appropriate treatment, the prognosis in children is generally favorable.
  - B) The initial and primary complaint is described as severe, constant burning and/or deep, aching pain, usually in a limb.
  - C) In type I CRSP, there is a known injury to a specific nerve, although the signs and symptoms may not be limited to the distribution of the injured nerve.
  - D) CRSP commonly occurs after localized trauma, such as fractures, sprains, or crush injuries.
53. Which of the following is not correct about stellate ganglion block?
- A) Fluoroscopic guidance is recommended for this procedure.
  - B) Stellate ganglion lies medial to the vertebral artery at the level of the C6 vertebra, in close proximity to the recurrent laryngeal nerve.
  - C) Pain relief, Horner's syndrome (miosis, ptosis, nasal congestion, and anhidrosis) and an increase in skin temperature of the extremity suggest effective stellate ganglion block.
  - D) With the patient in the supine position and the neck extended, the needle is directed toward the tubercle of the T1 vertebral body.
54. All of the following conditions except one are possible contraindications for entry into inpatient outpatient exercise programs. Identify that one condition.
- A) Unstable angina
  - B) History of embolism long ago.
  - C) Active pericarditis or myocarditis.
  - D) Uncontrolled diabetes.
55. Which of the following is not correct with respect to terms used in cardiac rehabilitation.
- A) Stroke volume(SV) is the amount of blood ejected with each ventricular contraction.
  - B) Cardiac output (CO) equals HR+SV
  - C) The maximum heart rate (HR) is defined as the maximum HR obtained on an exercise stress test.
  - D) The maximum heart rate can be estimated for the normal population by subtracting the patient's age in years from 220.

56. A patient with spinal cord injury having greater deficit in the upper limbs than the lower limbs is likely to have what type of lesion?
- A) Brown-sequard syndrome
  - B) Anterior cord syndrome
  - C) Central cord syndrome
  - D) Posterior cord syndrome
57. Patients with dizziness or vertigo associated with changes in head position of suspected of having benign paroxysmal positional vertigo are commonly assessed with.
- A) Mills manoeuvre
  - B) Berg balance test
  - C) Dix-Hallpike manoeuvre
  - D) Caloric reflex test
58. If a young lady suffering from Rheumatoid Arthritis has flexion deformity of PIP joint and hyperextension of DIP joint of a finger, this deformity is known as.
- A) Swan-neck deformity
  - B) Mallet finger
  - C) Z deformity
  - D) Boutonniere deformity
59. A 30-year-old patient with a complete T5 level spinal cord injury is engaged in some activities in a PMR inpatient Ward when he suddenly appears flushed and complains of his heart pounding. Upon examination, his blood pressure is 180/100 and he has a pounding headache. the most appropriate INITIAL course of action recommended is:
- A) Lay the patient supine and notify the patient's physician.
  - B) Sit the patient up and notify the patient's physician.
  - C) Allow the patient to rest longer between sets of activity
  - D) Initiate core strengthening exercises to maintain intraabdominal pressure.
60. Which of the following is not a feature of cerebellar involvement?
- A) Resting tremor
  - B) Ataxia
  - C) Dysarthria
  - D) Nystagmus

61. Which of the following is the most widely used measure of the functional status of cancer patients?
- A) Borg Scale
  - B) Karnofsky Scale
  - C) FIM
  - D) Barthel Index
62. Which of the following is not a feature of the most common focal nerve entrapment syndrome?
- A) Tingling, burning and numbness in the median nerve distribution.
  - B) Symptoms are often relieved with rest at night.
  - C) Weakness of the median-innervated hand muscles in advanced cases.
  - D) Symptoms are often induced by overuse of the hand, especially forceful gripping.
63. Majority of Cerebral palsy cases occur during.
- A) Postnatal period
  - B) Birth of the baby
  - C) Prenatal period
  - D) They occur with almost equal frequency during all these periods.
64. A 64-year-old man is referred to PMR department OPD by his physician with a diagnosis of left knee osteoarthritis and complaints of left knee pain, swelling, and antalgic gait. During the examination he demonstrates shortness of breath, wheezing, a barrel chest deformity, and the use of accessory muscles for respiration; the patient also reports that he does not tolerate supine positioning. Which of the following conditions is most likely the cause of his respiratory symptoms?
- A) Acute bronchitis
  - B) Pneumonia
  - C) Weakness of respiratory muscles
  - D) Chronic emphysema
65. Lateral epicondylitis primarily affects which of the following?
- A) Anconeus
  - B) Brachioradialis
  - C) ECRB
  - D) ECRL

66. Which of the following is not correct regarding energy consumption after amputation?
- A) Energy consumption for bilateral transtibial amputees is less than that for unilateral transfemoral amputees.
  - B) Ambulation with crutches with a swing through gait and without a prosthesis shows higher values for energy expenditure compared with prosthetic ambulation.
  - C) The metabolic cost of ambulation increases with more proximal levels of amputation.
  - D) In general, dysvascular amputees have an equally efficient gait when compared with traumatic amputees with comparable amputation levels.
67. Which of the following statements about COPD is not correct?
- A) In moderate to severe COPD, weight loss is common.
  - B) Weight loss is likely the result of insulin resistance, elevated catecholamine levels and dyslipidemia.
  - C) Total daily energy expenditure in patients with COPD, irrespective of their weight, is no different than in healthy people.
  - D) Treadmill walking is not the preferred method as it is generally not well tolerated, though effective for physiologic conditioning.
68. In the context of pulmonary rehabilitation, which of the following statements is not correct?
- A) Clearance of secretions is mandatory to reduce the work breathing, improve gas exchange, and limit infection and atelectasis.
  - B) For secretion clearance through chest physical therapy to be effective, mucociliary medications should be given.
  - C) These increase the tenacity and reduce volume of mucus secretion
  - D) Cough suppressant use should be limited to avoid secretion retention.
69. Which of the following statements is not correct about obesity?
- A) The prevalence of obesity (BMI>30) is increasing in India.
  - B) Primary respiratory complications associated with obesity include obstructive sleep apnea, obesity-hypoventilation syndrome, and asthma.
  - C) Chronic, hypoxemia related to obesity-hypoventilation syndrome can lead to anaemia, pulmonary Hypertension, cardiac dysrhythmias, and right ventricular failure.
  - D) Obesity increases the work and metabolic requirements of breathing and physical activity, resulting in decreased exercise tolerance.

70. Which of the following is the most common symptom experienced by cancer patients?
- A) Pain
  - B) Reduced appetite
  - C) Anaemia
  - D) Fatigue
71. Which of the following is not correct about cancer pain?
- A) The majority of cancer pain is due to tumor effects.
  - B) One salient distinction of cancer pain management is the more frequent use of opioid therapy.
  - C) Pain prevalence rates in cancer reported in a recent systematic review and metanalysis were 19.3% after curative treatment; 35% during anticancer treatment; and 46.4% in advanced, metastatic, or terminal disease.
  - D) Cancer-related depression, anxiety, and existential distress can exacerbate patients' pain experience.
72. Which of the following is not correct about paraneoplastic syndromes?
- A) The incidence of paraneoplastic neurologic disorders (PNDs) is significant, occurring in almost 6% of all cancer patients.
  - B) PND<sub>s</sub> may affect any level of the nervous system.
  - C) Rehabilitation of PNDs is determined by the type, distribution, and severity of the associated neurologic deficits.
  - D) Most PNDs are triggered during the early stages of cancer, when primary tumors and metastases may be undetectable by conventional investigational techniques.
73. Which of the following is not correct about breast cancer related rehabilitation?
- A) Premenopausal women requiring estrogen suppression receive tamoxifen
  - B) Multifactorial physical therapy (i.e., stretching and exercises) and active exercises were effective to treat postoperative pain and impaired ROM following treatment for breast cancer.
  - C) Shoulder mobilization in the immediate postoperative period may help in resolution of seroma.
  - D) Axillary web syndrome refers to the presence of taut, palpable cords originating in the axilla and extending distally.

74. Which of the following is not correct about burn injury related rehabilitation?
- A) Superficial thermal injury wounds are red, painful, and have little exudate.
  - B) Superficial partial thickness burn wounds are painful but typically heal within 7 to 14 days.
  - C) The risk of scarring from superficial partial thickness burn injury is high, and there might be pigmentation changes in the skin in the long term.
  - D) Deep partial-thickness burns injure the deeper layers of the dermis, have fewer blisters than superficial partial-thickness injuries.
75. Which of the following is not correct about burn injury related aspects in rehabilitation?
- A) Approximately 10% of individuals with major burns will develop peripheral neuropathies.
  - B) Mononeuropathies are seen with electrical injuries and flame burns.
  - C) Electromyographic studies must be interpreted with caution in the burned individual because these neuromuscular changes can be indistinguishable from true neuropathic changes.
  - D) Ulnar sensory neuropathies are the most common peripheral nerve abnormality after burn injury.
76. Which of the following is not correct about burn injury related aspects in rehabilitation?
- A) Hypertrophic scarring is the most common complication after burn injury, with a prevalence of 67%.
  - B) Hypertrophic burn scars tend to develop in the first few months of injury.
  - C) Hypertrophic scars are raised, red, painful, pruritic, and contractile and may extend beyond the margins of the original injury.
  - D) The first-line treatment for any burn scar is a non-evaporative topical emollient cream, applied four to six times per day, and avoidance of mechanical insults.
77. Which of the following is not correct about burn injury related aspects in Rehabilitation?
- A) Contracture after burn injury is common.
  - B) Concerns exist that positioning the axilla in greater than 90 degrees of abduction can result in brachial plexopathy.
  - C) The elbow, hip, and knee are the most common joints noticed to be affected with contractures in individuals discharged from the burn units.
  - D) A wrist and hand splint can be used to minimize the "intrinsic minus" position.

78. Which of the following is not correct about traumatic brain injury (TBI) related aspects in rehabilitation?
- A) TBI should be differentiated from other types of acquired injuries to the brain, such as those caused by tumor or stroke.
  - B) TBI is often categorized as mild, moderate, or severe.
  - C) The Glasgow coma Scale (GCS) is the gold standard for primary initial assessment of severity of injury.
  - D) TBI can be considered synonyms with "head injury"
79. Which of the following is not correct about traumatic brain injury (TBI) related aspects in rehabilitation?
- A) Inertial forces associated with angular acceleration result in diffuse axonal injury (DAI).
  - B) Midline brain structures, such as the corpus callosum, are often spared and DAI is not associated with loss of consciousness or coma.
  - C) The middle meningeal artery is commonly the source of Epidural haematomas (EDHs).
  - D) Subdural hematomas (SDHs) result from inertial forces and the tearing of bridging.
80. Which of the following is not correct about spasticity related aspects in rehabilitation?
- A) Spasticity as clinically defined by Lance is a force-dependent increase in tonic-stretch reflexes with exaggerated tendon jerk responses.
  - B) Among those with TBIs severe enough to require inpatient rehabilitation, the incidence of spasticity has been reported to be as high as 84%
  - C) The risk factors for spasticity development include more severe injury, motor dysfunction (hemiplegia or tetraplegia) associated anoxic injury, SCI, and age.
  - D) The tardieu scale is a true measure of spasticity, comparing the differences noted when a muscle is stretched at different velocities, and comparing the angles at which the catch noted.
81. Which of the following is not correct about spasticity related aspects in rehabilitation?
- A) The modified Ashworth scale assigns a 0 to 4 value based on the amount of resistance measured by an evaluator when attempting to move a joint through an available range of motion.
  - B) An important component of spasticity treatment is the use of static and dynamic splinting devices.
  - C) Physical modalities, such as cryotherapy, superficial heat, and ultrasound, can be used in concert with splinting or pharmacotherapy.
  - D) Baclofen acts by inhibiting the formation and release of acetylcholine from vesicles, thereby effectively inhibiting spinal reflexes.



82. Which of the following is not correct about traumatic brain injury (TBI) related aspects in rehabilitation?
- A) The most common etiology for TBI in children less than 15 years of age are sports injuries.
  - B) For adults 15 and older, the most common etiology of TBI is motor vehicle accident.
  - C) Preexisting ADHD is observed to be a very significant risk factor for pediatric TBI.
  - D) The highest mortality rates are observed in children with TBI under 2 years of age.
83. Which of the following is not a determinant of gait as originally described by Saunders and Inman?
- A) Pelvic rotation in the horizontal plane,
  - B) Early knee flexion,
  - C) Foot and ankle mechanisms,
  - D) Weight of the individual
84. Which of the following is the most prominent protein making up the myofibrillar fraction of skeletal muscle?
- A) C protein
  - B) Actin
  - C) Myosin
  - D) Troponin
85. Which of the following factors is considered the best indicator of an individual's level of aerobic capacity?
- A) Blood lactate threshold
  - B) Resting heart rate
  - C) Ventilatory threshold
  - D) Maximum oxygen uptake (VO<sub>2</sub> max)
86. Which of the following muscle fiber types is activated primarily during prolonged, low intensity exercise?
- A) Type I
  - B) Type 2a
  - C) Type 2b
  - D) Type 2x

87. What of the following is the most accurate way to diagnose gout?
- A) Physical exam
  - B) Elevated uric acid
  - C) Joint aspiration
  - D) Radiographic appearance
88. What of the following laboratory study is most helpful in diagnosing rheumatoid arthritis?
- A) Uric acid
  - B) Anti-CCP
  - C) ANA
  - D) ESR
89. Which of the following x-ray finding is not typical of rheumatoid arthritis?
- A) Soft tissue swelling
  - B) Periarticular osteopenia
  - C) Erosions at the joint margin
  - D) Syndesmophyte formation
90. Which of the following is the initial test of choice for diagnosis of DVT?
- A) Venography
  - B) MRI scan
  - C) Duplex ultrasound
  - D) D-dimer
91. A student athlete is being treated with ice for knee pain. what is the most appropriate timing of the ice application to maximize athletic performance based on the evidence?
- A) Wear an ice pack during athletic participation.
  - B) Treat with ice pack immediately following athletic participation.
  - C) Treat with ice pack, which is removed 15 minutes before athletic participation
  - D) Treat with ice pack, which removed immediately before athletic participation
92. The effective radiating area of the ultrasound head is:
- A) Equal to the size of the sound head
  - B) Twice the size of the sound head
  - C) Smaller than the size the sound head
  - D) Three times the size the sound head

93. When looking at acute increases in range of motion while performing static stretching, the optimal number of stretch repetitions advised is.
- A) 4
  - B) 3
  - C) 2
  - D) 1
94. The primary muscles contributing to stability during single limb support are the:
- A) Hip extensors
  - B) Knee extensors
  - C) Hip abductors
  - D) Ankle plantar flexors
95. During clinical examination, if you observe excessive knee flexion, too much ankle dorsiflexion, and lack of a heel rise during the terminal stance phase of gait, which is the most likely cause of this combination of deviations?
- A) Weak Quadriceps
  - B) Weak plantar flexors
  - C) Weak hamstrings
  - D) Weak Gluteal muscles
96. Which of the following statements regarding iontophoresis is correct?
- A) The active and passive electrodes should be placed about 8 inches apart
  - B) Increasing the drug concentration increases the amount of drug delivered to the tissue.
  - C) The magnitude of iontophoresis current determines the depth of penetration.
  - D) The depth of penetration is limited to approximately 8 to 10 mm.
97. Which of the following is not the general contraindications to manual therapy?
- A) Instability of the target joint.
  - B) Infectious arthritis
  - C) Motion impairment caused by a reversible joint hypomobility
  - D) Lack of diagnosed joint lesion.

98. Based on the literature which of the following conditions may not be improved by the application of massage?
- A) Depression
  - B) High blood pressure
  - C) Post exercise fatigue
  - D) Diabetes mellitus
99. Which of the following is not correct with regard to cervical spinal traction?
- A) Literature generally recommends the supine position to facilitate patient relaxation, proper force application, and optimal cervical angle.
  - B) Nerve root compression is relieved with 25 to 40 lb of force for mid and lower cervical region.
  - C) A chin halter should not be used on a patient diagnosed with TMJ dysfunction.
  - D) A 30-degree flexion angle is recommended to accomplish the goal of intervertebral separation in lower cervical region.
100. Which pattern of stiffness is most consistently observed in rheumatoid arthritis?
- A) Morning stiffness lasting more than an hour
  - B) Morning stiffness lasting less than an hour
  - C) Stiffness that is worsened with activity
  - D) Stiffness that is relieved with activity.
-

# ROUGH WORK

AL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **215697**

**Test Booklet Series**

**TEST BOOKLET  
PSYCHIATRY  
Written Test - 2023  
(78)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

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2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
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7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
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11. **Penalty for wrong answers:**

**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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**(78) (A)/2023**

**[P.T.O.]**

(78) (A)

(2)

1. Following are recommended for use in the detoxification in a case of benzodiazepine dependence syndrome
  - A) Only Benzodiazepines
  - B) Benzodiazepine and Carbamazepine
  - C) No benzodiazepine
  - D) No Beta blockers
  
2. Which phenomenon does the following statement define? "routing of sensory information through multiple unrelated sensory modality thereby causing perception in more than one sensory modality".
  - A) Reflex Hallucination
  - B) Multimodal hallucination
  - C) Illusion
  - D) Synesthesia
  
3. "Inflated responsibility" is phenomenologically associated with
  - A) Narcissistic Personality Disorder
  - B) Delusional Disorder
  - C) Mania
  - D) OCD
  
4. "Anticipatory Anxiety" is a core phenomenon associated with
  - A) Panic disorder
  - B) Agoraphobia with Panic attacks
  - C) Generalized anxiety disorder
  - D) Social Phobia
  
5. EEG is considered abnormal if following is/are noted
  - A) Frontal Intermittent Rhythmic Delta Activity
  - B) Temporal Intermittent Rhythmic Delta Activity
  - C) Occipital Intermittent Rhythmic Delta Activity
  - D) All of the above



6. "K2" is a form of
- A) Benzodiazepine
  - B) Opioid
  - C) Cannabinoid
  - D) Tobacco
7. Cytisine is a molecule used in the treatment of
- A) schizophrenia
  - B) bipolar depression
  - C) smoking cessation
  - D) panic disorder
8. "CAARMS", "SIPS" AND "BSABS" are interview schedules used for the assessment of
- A) Suicide risk
  - B) Psychosis prodrome
  - C) Resistant hallucinations
  - D) Mild cognitive impairment
9. A young male diagnosed with schizophrenia is started on 2 antipsychotic drugs at high doses. He developed altered mental status, fever, rigidity. Which one of the following investigation is preferred?
- A) CPK
  - B) CBC
  - C) ECG
  - D) MRI
10. In the treatment of ADHD, Methylphenidate is approved by the FDA for use in children
- A) 3 years and above
  - B) 4 years and above
  - C) 5 years and above
  - D) 6 years and above

11. In cases of organic/secondary psychotic disorders, the following regarding use of antipsychotics is true
- A) Start at low doses, escalate dose fast
  - B) Reaching maximum therapeutic dose early
  - C) Start at low doses, escalate dose slowly
  - D) Polypharmacy to essential
12. Which of the following antipsychotics should preferably be avoided in cases of epilepsy
- A) Haloperidol
  - B) Risperidone
  - C) Clozapine
  - D) Aripiprazole
13. Carbamazepine is useful in the treatment of
- A) Bipolar disorder
  - B) Chronic headache
  - C) Benzodiazepine dependence
  - D) All of the above
14. The following drugs are considered antisuicidal
- A) Clozapine, Olanzapine and Quetiapine
  - B) Clozapine, Ketamine and Quetiapine
  - C) Lithium, Valproate and Carbamazepine
  - D) Clozapine, Ketamine and Lithium
15. The following statement is TRUE regarding intermittent Theta Burst Stimulation (iTBS)
- A) It is a mode for excitatory brain stimulation
  - B) It corresponds with low frequency rTMS
  - C) It cannot be used for accelerated protocols
  - D) It cannot be used in combination with tDCS
16. Geschwind syndrome is associated with
- A) Traumatic Brain Injury
  - B) Temporal lobe Epilepsy
  - C) Stroke
  - D) All of the above

17. Most common comorbidity associated with ADHD is
- A) Epilepsy
  - B) Cerebral Palsy
  - C) Strabismus
  - D) Cleft lip
18. Transcranial Magnetic Stimulation is approved by the FDA for
- A) Panic disorder
  - B) Smoking cessation
  - C) Dementia
  - D) Mania
19. "Ripple effect" of suicides refers to
- A) Effect suicidal ideas have on anxiety, depression and thoughts
  - B) Serotonergic modulation of other neurotransmitter systems
  - C) Effects suicide has on family, community and society at large
  - D) Effect of hanging on spinal vertebra
20. Decriminalization of suicides refer to
- A) Abolition of IPC section 309
  - B) MHCA 2017 stating "notwithstanding anything contained in IPC section 309..."
  - C) Repealing all criminal cases related to suicides
  - D) Abolition of the concept of "abetement of suicide"
21. Midcingulo-insular network (M-CIN) is also known as
- A) Salience network
  - B) Reward circuit
  - C) default mode network
  - D) central executive network

22. Emotion recognition, theory of mind, attributional styles, social perception and social knowledge are subsumed under:
- A) Social memory
  - B) Social science
  - C) Social cognition
  - D) Complex cognition
23. Rey–Osterrieth Complex Figure (ROCF) test is used to assess
- A) Attention and concentration
  - B) Fine-motor coordination
  - C) Visuospatial memory
  - D) All of the above
24. What is "runner's high"?
- A) Euphoria associated with exercise
  - B) Dysphoria associated with exercise
  - C) Euphoria associated with cocaine
  - D) Dysphoria associated with cocaine
25. Neurodevelopmental hypothesis of schizophrenia is NOT based on
- A) Season of birth
  - B) Obstretic complications
  - C) Advanced paternal age
  - D) Higher maternal melatonin
26. The following is NOT a "breaking bad news" protocol
- A) BREAKS
  - B) SPIKES
  - C) STRIPES
  - D) ABCDE

27. "Eat the Frog" approach is used for
- A) Time management
  - B) Anger management
  - C) Adverse effect management
  - D) Waste management
28. "Cold Turkey" is a term associated with management of
- A) Social withdrawal
  - B) Opioid withdrawal
  - C) Internet withdrawal
  - D) School withdrawal
29. Bipolar Spectrum Diagnostic Scale was developed by
- A) Ghaemi and colleagues
  - B) Kendler and colleagues
  - C) Akiskal and colleagues
  - D) Kraepelin and colleagues
30. Listening to music may temporarily boost IQ scores. This is
- A) Dunning-Kruger effect
  - B) Flynn effect
  - C) Reverse Flynn effect
  - D) Mozart effect
31. Susto is a culture bound syndrome characterized "an illness attributed to a frightening event that causes the soul to leave the body and results in unhappiness and sickness". Where is it described?
- A) South America
  - B) Africa
  - C) India
  - D) Japan

32. Which amnesia describes dissociative amnesia the best?
- A) Global amnesia
  - B) Selective amnesia
  - C) Retrograde amnesia
  - D) Anterograde amnesia
33. All are principles of sex therapy, EXCEPT
- A) Partners are treated separately
  - B) Partners are helped to communicate better about their sexual relationship
  - C) They are also given basic knowledge about anatomy & physiology of sexual intercourse
  - D) Sensate focus is an integral part of therapy
34. In DSM-5, impulse control disorders are classified under
- A) OCD
  - B) Mood disorders
  - C) Disruptive disorders
  - D) Personality disorders
35. Commonly used psychological intervention in management of disruptive disorders is
- A) Progressive muscular relaxation exercise.
  - B) Cognitive retraining
  - C) Parent management training
  - D) Habit reversal therapy
36. The drug to be avoided in females in reproductive age group
- A) Valproate
  - B) Sertraline
  - C) Melatonin
  - D) Fluoxetine

37. Treatment of nocturnal enuresis includes
- A) Bladder training (reward for delaying micturition during daylight hours)
  - B) Classic conditioning with a bell-and-pad apparatus
  - C) Pharmacotherapy with desmopressin
  - D) Any of the above
38. In a 40 years old male patient with opioid dependence syndrome, which of the following drugs can be used in the maintenance treatment?
- A) Disulfiram
  - B) Clonidine
  - C) Naltrexone
  - D) Diphenoxylate
39. Which vitamin deficiency causes amnestic disorder in a case of chronic alcohol dependence?
- A) Riboflavin
  - B) Pantothenic acid
  - C) Thiamine
  - D) Pyridoxine
40. Not true about dissociative convulsion:
- A) Mostly occurs in safe place
  - B) More commonly occurs during sleep
  - C) Absence of any established clinical pattern
  - D) Lip bite
41. The minimum mental age of a child to diagnose nocturnal enuresis is
- A) 2 years
  - B) 3 years
  - C) 4 years
  - D) 5 years

42. Pica is commonly linked with deficiency of:
- A) Sodium
  - B) Phosphorous
  - C) Iron
  - D) Thiamine
43. Addictive disorders has heritability of:
- A) 100%
  - B) >80%
  - C) 40-70%
  - D) <10%
44. Delirium tremens usually presents
- A) Next day of abstinence
  - B) 2<sup>nd</sup> day of abstinence
  - C) 3-4<sup>th</sup> day of abstinence
  - D) 7 days of abstinence
45. True about suicide gate keepers
- A) Any one can be gatekeepers
  - B) Only mental health professionals are eligible for being gatekeepers
  - C) CPR is an essential element of gatekeeper training
  - D) Those at high risk for suicide themselves cannot be gatekeepers
46. Symptoms of Lithium toxicity are all except
- A) Liver failure
  - B) Tremors
  - C) Seizures
  - D) Coma



47. Shaping and chaining are a part of which form of therapy?
- A) Existential therapy
  - B) Narrative therapy
  - C) Behavior therapy
  - D) Hypnosis
48. True about placebo
- A) Placebo is the inert constituent of a drug
  - B) Placebo is a similar looking pill with no/inert medication
  - C) Placebo do not produce any effect
  - D) All patients respond to placebo
49. Positive response that happens in depression during sham vagal nerve stimulation is:
- A) Domino effect
  - B) Butterfly effect
  - C) Placebo effect
  - D) Expectancy effect
50. Mental disorders were introduced in
- A) ICD-4
  - B) ICD-5
  - C) ICD-6
  - D) ICD-7
51. Drugs found to be effective for treatment of tardive dyskinesia are all, EXCEPT
- A) Guanfacine
  - B) Tetrabenazine
  - C) Botulinum
  - D) Lithium
52. Drugs used for clozapine induced sialorrhea are all EXCEPT
- A) Trihexyphenidyl
  - B) Diphenhydramine
  - C) Chlorpheniramine
  - D) Tetrabenazine

53. As per the recent national mental health survey of India- 2016 lifetime prevalence of schizophrenia is
- A) 3%
  - B) 2.40%
  - C) 1.40%
  - D) 0.40%
54. Which of the following pathway is responsible for occurrence of positive symptoms in schizophrenia?
- A) Mesocortical
  - B) Mesolimbic
  - C) Nigrostriatal
  - D) Tuberoinfundibular
55. Librium and Valium are popular brand names for:
- A) Lithium and Valproate
  - B) Chlordiazepoxide and Diazepam
  - C) Magnesium valproate and sodium valproate
  - D) Lithium carbonate and lithium orotate
56. Which of the following is classified as a disorder of thought possession
- A) Delusion
  - B) Hallucination
  - C) Obsession
  - D) Illusion
57. Which of these predicts a poor prognosis for treatment response in OCD?
- A) Hoarding
  - B) Sexual obsessions
  - C) Checking compulsions
  - D) Dirt obsessions

58. "Domestic squalor" is associated with
- A) Hoarding OCD
  - B) Dementia
  - C) Chronic schizophrenia
  - D) All of the above
59. Pisa syndrome is
- A) Dystonia
  - B) Dysphonia
  - C) Dysarthria
  - D) Dysphoria
60. Animal magnetism is a term used in the context of
- A) Bestiality
  - B) Regression
  - C) Hypersexuality
  - D) Hypnosis
61. Which of the following sections under MHCA 2017 deals with leave or absence of admitted patient?
- A) Section 85
  - B) Section 87
  - C) Section 91
  - D) Section 94
62. Which of the following is false with respect to emergency treatment as per MHCA 2017?
- A) Can be done by any medical practitioner
  - B) Limited to 72 hrs
  - C) Can be extended to 5 days
  - D) ECT is not a permitted procedure

63. The maximum duration for which supported admission as per MHCA 2017 can be extended is?
- A) 30 days
  - B) 90 days
  - C) 120 days
  - D) 180 days
64. As per rules laid by National Medical commission, Competency based medical education (CBME) was implemented for Undergraduates from
- A) Aug-18
  - B) Jan-18
  - C) Aug-19
  - D) Jan-19
65. Clozapine rechallenge is recommended in all of the following adverse effects except
- A) Seizures
  - B) Agranulocytosis
  - C) Myocarditis
  - D) Bowel obstruction
66. Choose the incorrect statement about Prader Willi Syndrome
- A) Results from a small deletion involving chromosome 18, occurring sporadically.
  - B) Its prevalence is less than 1 in 10,000
  - C) Persons with syndrome exhibit compulsive eating behavior and often obesity.
  - D) Can also exhibit hypogonadism, small stature, small hands and feet.
67. An irresistible impulse to steal things even though there is no personal or financial need for them. Select the INCORRECT statement about this condition
- A) A psychodynamic theory of its aetiology includes loss substitution, in which the offence provides symbolic compensation for threatened or actual loss
  - B) Cognitive-behavioural therapy has been found to be an effective treatment
  - C) It is also known as kleptomania
  - D) It is more prevalent in males.

68. What is true about children with Cat's Cry Syndrome
- A) It is also known as Lesch-Nyhan Syndrome
  - B) There is deletion in chromosome 6
  - C) It is caused by laryngeal abnormalities
  - D) It is caused by deficiency of Purine
69. A 50 year old male presented with acute onset visual difficulties following a road traffic accident. He had trouble inserting key into the keyhole, to stick a fork into potato, and severe difficulties in reading and writing, and an inability to perceive more than 1 object at a time. Select one incorrect option about the disorder described above.
- A) Bilateral damage to the dorsal stream of visual perceptual processing
  - B) Triad of simultagnosia + ocular apraxia + optic ataxia
  - C) Known as Balint's syndrome
  - D) Prosopagnosia
70. The first government run lunatic asylum was opened in India at
- A) Maharashtra
  - B) Madhyapradesh
  - C) West Bengal
  - D) Bihar
71. The classical experiment on emotion to support the concept of the misattribution effect is
- A) Dutton and Aron's suspension-bridge experiment
  - B) Hohmann's study of adult males with spinal cord injuries
  - C) Laird's facial feedback experiment
  - D) Valins' false feedback experiment
72. Endoxifen used in the treatment of bipolar mania works through
- A) Direct protein kinase C inhibition
  - B) Indirect protein Kinase C inhibition
  - C) Inhibition of Cyclooxygenase
  - D) Inhibition of GSK-3

73. Modification of behavior by study participants in response to their knowledge that they are being observed or singled out for special treatment is known as
- A) Placebo effect
  - B) Hawthorne effect
  - C) Rosenthal effect
  - D) Pygmalion effect
74. Which formulation of ketamine is FDA approved for suicidality and treatment resistant depression?
- A) Intravenous
  - B) Tablet
  - C) Intranasal
  - D) Lozenges
75. Treatment gap for different mental disorders as per NMHS 2015-2016 was found be
- A) 40-50%
  - B) 70-90%
  - C) 20-30%
  - D) 50-70%
76. In ICD-11, which of the following disorders is not included in the section of mental, behavioral and neurodevelopmental disorders?
- A) Sleep disorders
  - B) Conditions related to sexual health
  - C) Both A and B
  - D) Paraphilic disorders
77. Hyperkatifeia is a phenomenon commonly seen in persons during withdrawal from
- A) Cocaine
  - B) Opioids
  - C) Cannabis
  - D) Tobacco

78. All of the following are components of Habit reversal training for tic disorder except?
- A) Awareness training
  - B) Competing response
  - C) Caregiver support
  - D) Relaxation training
79. A 45-year-old woman with history of schizophrenia since 15 years currently on treatment with Haloperidol 15mg has about 60% improvement with respect to psychotic symptoms. Since 2 years, she has lip smacking, protrusion of tongue and irregular movements of shoulders and arms. What is the best course of management in this patient ?
- A) Start Trihexyphenidyl along with haloperidol
  - B) Taper and stop haloperidol and start Clozapine
  - C) Start Lorazepam along with haloperidol
  - D) Start Propranolol along with haloperidol
80. Pilot study prior to conducting National Mental Health Survey 2015-2016 was conducted in
- A) Salem, Tamilnadu
  - B) Kolar, Karnataka
  - C) Raipur, Chattisgarh
  - D) Bengaluru, Karnataka
81. All of the following are true about the findings of National Mental Health Survey 2015-2016 except?
- A) Response rate was 91.9%
  - B) Prevalence is high in urban metros
  - C) The prevalence rates of any mental disorder was 10.6%
  - D) The lowest response rates were from Jharkhand and Chattisgarh
82. Brief Psychiatric rating scale consists of
- A) 18 items
  - B) 12 items
  - C) 10 items
  - D) 16 items

83. A BPAD patient was found to have suffered from an MI and underwent angioplasty. He was discharged from the hospital on propranolol, topical nitroglycerin, hydrochlorothiazide, and one aspirin per day, in addition to his lithium. Prior to his MI, his lithium level was always 0.8 mmol/L on 900 mg/day of lithium carbonate. Now it is 1.3 mmol/L on the same dose. The most likely cause for this change is which of the following
- A) Propranolol
  - B) Topical Nitroglycerin
  - C) Hydrochlorothiazide
  - D) Aspirin
84. A 12 years old boy presented with 2 years duration of intrusive, unpleasant and repetitive gory images of people engaged in violence or soaked in blood that interfered with his ability to study. He would have distressing palpitations, tremors and fearfulness simultaneously when he experiences these. He knows these are irrational and absurd. Select one incorrect statement regarding this:
- A) First-line treatment is psychological and involves behavioural techniques such as exposure and response prevention.
  - B) It is extremely rare in young children.
  - C) Its point prevalence rises to approximately 0.6 per cent in 13- to 15-year-olds.
  - D) When it presents in adolescence, boys predominate.
85. Which of the following works was written by Carl Jung?
- A) Beyond the Pleasure Principle
  - B) Envy and Gratitude
  - C) Illustrations of Madness
  - D) Memories, Dreams, Reflections
86. In an experiment with a dog, a buzzer, previously paired with food using Pavlovian conditioning, is paired with a black square. After ten pairings, the dog salivates a small but significant amount at the sight of the black square before the buzzer is sounded. The black square–buzzer pairing is referred to as which of the following types of conditioning?
- A) Zero-order conditioning
  - B) First order conditioning
  - C) Second order conditioning
  - D) Third order conditioning



87. Cognitive behavioral analysis system of psychotherapy (CBASP) is best used in the management of?
- A) Bipolar depression
  - B) Chronic depression
  - C) Obsessive compulsive disorder
  - D) Anxiety disorders
88. When the null hypothesis is accepted, it is possible that:
- A) A correct Decision has been Made
  - B) Type-II error has been made
  - C) Both A and B
  - D) Neither A nor B
89. Which of the following somatoform disorders is not more common in women than in men?
- A) Body dysmorphic disorder
  - B) Hypochondriacal disorder
  - C) Persistent Somatoform pain disorder
  - D) Somatization disorder
90. In a patient with major depressive disorder and history of heart disease which drug should be avoided?
- A) Sertraline
  - B) Amitryptiline
  - C) Venlafaxine
  - D) Fluoxetine

91. An individual's sense of morality is tied to personal and societal relationships. Children continue to accept the rules of authority figures, but this is now because they believe that this is necessary to ensure positive relationships and societal order. According to Kohlberg's stage theory of moral development, which of the following stages can describe the above explained behavior?
- A) Pre-conventional stage
  - B) Pre-operations stage
  - C) Operations stage
  - D) Conventional stage
92. In the history of psychology, Wilhelm Wundt is particularly associated with which of the following?
- A) Behaviorism
  - B) Cognitive psychology
  - C) Introspectionism
  - D) Gestalt psychology
93. All of the following are true about Schizophrenia spectrum disorders in ICD-11 except?
- A) Duration criteria for schizophrenia diagnosis is 1 month
  - B) Delusional disorder is classified in the same category of 6A
  - C) Substance induced psychotic disorders are under 6A category
  - D) 2 out of 7 symptoms are required for diagnosis of Schizophrenia
94. A 44 year old woman has come with suspiciousness against her family members that they are trying to harm her, poor personal care and withdrawn behaviour since past 5 months. She has complaints of frequent fractures and irregular menstruation. She was advised to take calcium supplementation. Drug of choice ?
- A) Aripiprazole
  - B) Olanzapine
  - C) Risperidone
  - D) Quetiapine

95. The newer antipsychotic Cariprazine is available in all of the following strengths except?
- A) 1.5 mg
  - B) 3.0 mg
  - C) 4 mg
  - D) 6 mg
96. A 21-year-old woman is brought into an outpatient clinic by her mother, who complains that her daughter has been demonstrating unusual eating patterns such as eating large amounts of food, such as desserts, when she is alone, often finding food wrappers hidden in her daughter's room. She often isolates herself in the bathroom for 10-20 minutes after a large meal. Which of the following is the first-line treatment of choice ?
- A) A second-generation antipsychotic
  - B) A tricyclic antidepressant
  - C) A SSRI
  - D) Cognitive-behaviour therapy
97. A 40-year-old man admitted to the medical ward for upper gastrointestinal tract bleeding is a known patient dependent on alcohol. His amylase level is high. During the interview, he mentions that, 'I don't have a problem with alcohol.' What is the defence mechanism?
- A) Acting out
  - B) Denial
  - C) Projection
  - D) Rationalization
98. Schachter and Wheeler carried out an experiment in which participants were injected with either adrenaline or chlorpromazine, while control subjects were injected with a placebo. Given that chlorpromazine inhibits arousal, how much would you expect the adrenaline- and chlorpromazine-injected participants to laugh compared with the placebo-injected individuals while watching a slapstick comedy?
- A) The adrenaline-injected participants would laugh less and the chlorpromazine-injected participants would laugh less than the placebo-injected individuals.
  - B) The adrenaline-injected participants would laugh less and the chlorpromazine-injected participants would laugh more than the placebo-injected individuals.
  - C) The adrenaline-injected participants would laugh more and the chlorpromazine-injected participants would laugh less than the placebo-injected individuals.
  - D) The adrenaline-injected participants would laugh more and the chlorpromazine-injected participants would laugh more than the placebo-injected individuals.

99. Which of the following medications is least likely to cause depression?

- A) Methyldopa
- B) Nifedipine
- C) Orphenadrine
- D) Prednisolone

100. Which of the following medications is least likely to induce symptoms of mania?

- A) Amitriptyline
- B) Atomoxetine
- C) Chloroquine
- D) Dantrolene sodium

# ROUGH WORK

(78) (A)

(24)

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **215781**

**Test Booklet Series**

**TEST BOOKLET  
RADIO DIAGNOSIS**

**A**

**Written Test - 2023**

**(79)**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. **DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
6. **All** items carry equal marks.
7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use "**ONLY BALL POINT PEN**".
11. **Penalty for wrong answers:**

**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**

- (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
- (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
- (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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**(79) (A)/2023**

**[P.T.O.]**

18713

1. In which of the following sites does extra-nodal Hodgkin's disease occur most commonly?
  - A) Spleen
  - B) Thymus
  - C) Thyroid
  - D) Small bowel
  
2. The CT chest of a 38-year-old-patient reveals parenchymal nodules and multiple thin-walled cysts some of these cysts have a bizarre configuration and are predominantly located in the upper and middle zones, sparing the costo-phrenic recesses, tips of the middle lobe and lingula. What is the most likely diagnosis?
  - A) Lymphangiomyomatosis
  - B) Birt-Hogg-Dubé syndrome
  - C) Lymphocytic interstitial pneumonia(LIP)
  - D) Langerhans' cell histiocytosis (LCH)
  
3. A 40-year-old male smoker has a 6-month history of gradually increasing shortness of breath and cough. CXR shows a mild increase in interstitial markings in the mid and upper zones. A high-resolution CT (HRCT) of chest demonstrates ill-defined centrilobular ground-glass nodules, more pronounced in the mid and upper zones. There is no traction bronchiectasis or honeycombing. What is the most likely diagnosis?
  - A) Cryptogenic organizing pneumonia (COP)
  - B) Usual interstitial pneumonia(UIP)
  - C) Respiratory bronchiolitis interstitial lung disease (RBILD)
  - D) Lymphoid interstitial pneumonia.
  
4. A 25-year-old with a history of cystic fibrosis presents with massive haemoptysis. Bronchial artery embolization is requested. Which of the following statements regarding bronchial artery embolization is false?
  - A) A descending thoracic aortogram is performed prior to selective bronchial angiography.
  - B) Chest pain is the most common complication
  - C) The abnormal bronchial artery is embolized at its origin.
  - D) Polyvinyl alcohol particles (diameter of 350–500  $\mu\text{m}$ ) may be used as the embolic material.



5. A 60-year-old woman presents with gradually increasing shortness of breath. A CXR and HRCT of chest shows subpleural reticulation, more marked in the lower zones. Which of the following finding on HRCT is most likely to support the diagnosis of NSIP?
- A) Centrilobular nodules
  - B) Air-trapping
  - C) GGO
  - D) Cystic changes
6. A 60-year-old man presents with a history of headache, vertigo, ataxia, and intermittent pain and weakness in his left arm initiated by using the left arm for daily activities. On examination, the left radial pulse is weak and the systolic blood pressure on the left side is reduced. Doppler ultrasound reveals reversal of flow in the left vertebral artery. What is the likely underlying pathology?
- A) Critical stenosis of the origin of left subclavian artery
  - B) Critical stenosis of left MCA.
  - C) Critical stenosis of third part of left subclavian artery.
  - D) Critical stenosis of left vertebral artery.
7. A 60-year-old female is found to have a solitary pulmonary nodule on imaging. Which of the following features suggests that it is benign?
- A) Irregular, spiculated margin.
  - B) Central 'popcorn' calcification.
  - C) Doubling time of 180 days.
  - D) SUV of 8 on PET-CT.
8. A 56-year-old man presents with shortness of breath. An HRCT of chest is performed which shows a mosaic attenuation pattern throughout the lung parenchyma, but you are having difficulty determining if the more lucent areas are normal or abnormal. Which of the following findings is most likely to be helpful in confirming that the lucent areas are abnormal areas and you are not dealing with multifocal GGO?
- A) Increased caliber of vessels in denser areas.
  - B) Decreased caliber of vessels in denser areas.
  - C) Increased caliber of vessels in lucent areas.
  - D) Decreased caliber of vessels in lucent areas.

9. A 25-year-old baseball player presents with a history of worsening pain, diffuse edema and discoloration of the right upper limb following a game. Doppler ultrasound demonstrates occlusion of the axillary and subclavian veins. He undergoes catheter-directed thrombolysis successfully. Check venogram demonstrates external compression from scalenus muscle. What is the diagnosis?
- A) Wilkie syndrome.
  - B) Nutcracker syndrome.
  - C) Paget-Schroetter syndrome.
  - D) Median arcuate ligament syndrome.
10. A 30 year old undergoes a chest radiograph that reveals a mass on left side obscured upper left heart border. The descending aorta can, however, be seen despite the mass. Which of the following is the most likely location of the mass? (M)
- A) Apico-posterior segment
  - B) Lingula
  - C) Superior segment of lower lobe.
  - D) Posterior basal segment of the lower lobe
11. A 20 year old female patient with a known phacomatosis shows multiple heterogeneous areas of low attenuation (approximately -20) scattered throughout both her kidneys. Which of the following features may be seen on chest CT?
- A) Multiple pulmonary AVMs
  - B) Multiple bilateral pulmonary cysts
  - C) Mediastinal mass
  - D) Emphysema
12. A 28 year old asthmatic patient complaints of recently increased dyspnoea. Investigations show an elevated WBC count and eosinophilia. Chest radiograph reveals multiple areas of ill-defined peripherally based consolidation. Subsequent chest radiographs after a week show the consolidation to resolve in places but commence in other previously unaffected areas. The most likely cause is:
- A) Alveolar sarcoidosis
  - B) Bronchioalveolar carcinoma
  - C) Hypersensitivity pneumonitis
  - D) Loffler syndrome

13. A 30 year old female patient presents with a longstanding history of fever, dry cough and weight loss. Blood investigations reveal hypercalcemia and elevated angiotensin-converting enzyme (ACE). On CT, lymphadenopathy was found. Which of the following would be the least likely feature in favor of clinical diagnosis?
- A) Bilateral hilar lymphadenopathy
  - B) Egg-shell calcification
  - C) Perilymphatic lung nodularity
  - D) Posterior mediastinal lymph nodes
14. A 7-year-old boy presents with a history of recurrent chest infections. The chest radiograph shows a mass lesion in left lower zone. Contrast enhanced CT shows ~ 6 cm lobulated, multicystic lesion in the left lower lobe containing solid and cystic components. The lesion has arterial supply from thoracic aorta and venous drainage into pulmonary vein. What is the most likely diagnosis?
- A) Extralobar sequestration
  - B) Congenital cystic adenomatoid malformation
  - C) Intralobar sequestration
  - D) Abscess
15. A 62-year-old man undergoes lung scintigraphy for investigation of PE. Which of the following scan patterns would be in keeping with a low probability for PE?
- A) Triple matched defect in the lower lung zone.
  - B) Perfusion defect with a rim of surrounding normally perfused lung.
  - C) No defects present on perfusion scan.
  - D) Four moderate segmental defects.
16. In a patient with hemoptysis CT of chest was advised, but the I.V. contrast was withheld due to reduced eGFR. HRCT reveals bilateral nodules in peribronchovascular distribution, some of which show cavitation with peripheral wedge-shaped areas of consolidation. No mediastinal or hilar adenopathy is present. He has a history of sinusitis. What is the most likely diagnosis?
- A) Invasive fungal infection.
  - B) Sarcoidosis.
  - C) Wegener's granulomatosis.
  - D) Tuberculosis.

17. A 50-year-old man presents with low back pain. Plain film reveals an osteolytic midline lesion in the lower sacrum with sclerosis in the periphery, as well as amorphous calcifications. A lateral film shows anterior displacement of the bladder and rectum. No additional lesions were discovered after imaging of the whole spine. What is the most likely diagnosis?
- A) Osteomyelitis.
  - B) Chordoma.
  - C) Myeloma.
  - D) Sacrococcygeal teratoma.
18. A 56 year old motorcyclist has a trauma series of plain films following a road traffic accident. On evaluation of the lateral cervical spine film, which of the following soft tissue parameters would be a concerning feature?
- A) Predental space of 3 mm
  - B) Prevertebral space of 12 mm
  - C) Retrotracheal space of 20 mm
  - D) Decreased disc space at the C5/6 level
19. In a 50 year old woman with fracture of neck of humerus, which of the following classification systems of the fracture would be useful in guiding the surgical management?
- A) Garden classification
  - B) Weber classification
  - C) Neer classification
  - D) Mason classification
20. A 45 year old woman sustains injury to the wrist. On PA and lateral X-ray view of wrist, scapholunate angle is 70 degrees, capitolunate angle is less than 20 degrees, and a 4 mm gap is seen between scaphoid and lunate on PA view. These findings are indicative of which pathology?
- A) Scapholunate dissociation
  - B) Perilunate dislocation
  - C) Volar intercalated segment instability (VISI)
  - D) Normal appearance

21. A 25 year old patient presents with pain in his right knee which is gradually worsening in severity and is relatively resistant to analgesia. MRI of the knee demonstrates an area of geographic bone destruction in the distal femur with a wide zone of transition. There is aneurysmal dilatation of the bone and a fluid-fluid level is present within the lesion. The most likely diagnosis is:
- A) Parosteal osteosarcoma
  - B) Simple bone cyst
  - C) Giant cell tumour
  - D) Telangiectatic osteosarcoma
22. A young man with limited range of movement at the shoulder joint, a webbed neck and plain film findings of a hypoplastic scapula which is elevated and medially rotated with an associated omovertebral bone is likely to have which associated syndrome?
- A) Turner's syndrome
  - B) Down's syndrome
  - C) Klippel-Feil syndrome
  - D) Cleidocranial dysostosis
23. A 50 year old woman presents with a mass on the plantar aspect of her right foot. Ultrasound reveals a small oval-shaped lesion between the plantar portions of the metatarsal heads. MRI characteristics of the lesion are low-to-intermediate signal on T1 and low signal intensity on T2. Which of the following is the most likely diagnosis?
- A) Lipoma
  - B) Morton's neuroma
  - C) Ganglion cyst
  - D) Giant cell tumour of the tendon sheath
24. In a 26 year old woman with sickle cell disease, which one of the following would not be considered a typical musculoskeletal manifestation of the disease?
- A) 'Hair on end' appearance in skull
  - B) 'Bone within bone' appearance
  - C) Avascular necrosis of the femoral head
  - D) Posterior vertebral scalloping

25. A 23 year old runner complains of increasing right groin pain. Plain films show no acute bony injury, but demonstrates a pistol grip deformity of the femoral head, an osseous bump deforming the femoral head-neck junction and an alpha angle of 70 degrees. The acetabulum appears normal. The most likely diagnosis is:
- A) Hip dysplasia
  - B) Pincer-type acetabular impingement
  - C) Cam-type acetabular impingement
  - D) vascular necrosis
26. A 17 year old patient complains of lower thoracic back pain. Plain radiographs of thoraco-lumbar spine shows wedging of multiple vertebrae at the thoraco-lumbar junction, multiple limbus vertebrae with Schmorl's nodes along endplates and increased thoracic kyphosis. What is the unifying diagnosis?
- A) Scheuermann's disease
  - B) Ankylosing spondylitis
  - C) Hyperparathyroidism
  - D) DISH
27. A 26 year old women presents with history of trauma and severe midfoot pain. Plain radiograph taken on arrival at the emergency department confirms a Lisfranc fracture-dislocation. Which two bones does the Lisfranc ligament attach to?
- A) First and second metatarsals to the medial and intermediate cuneiforms
  - B) First metatarsal and medial cuneiform
  - C) Second metatarsal and medial cuneiform
  - D) Second metatarsal and intermediate cuneiform
28. A 30 year old woman with history of injury presents with a painless swelling of right index finger which she says has been present for a few weeks. On X-ray, there is a lytic lesion within the medullary cavity of middle phalanx of index finger. There is bulbous expansion of the bone with thinning of the cortex. However, no cortical break or periosteal reaction is seen. The lesion shows irregular ring and arc calcifications. This is most likely to represent:
- A) Brown tumour
  - B) Unicameral bone cyst
  - C) Enchondroma
  - D) Giant cell tumour of the tendon sheath

29. 40 year old man has a history of head injury. On Ct, right-sided longitudinal temporal bone fracture is seen. Which of the following is a correct association?
- A) Facial nerve palsy
  - B) Rhinorrhoea
  - C) Sensorineural hearing loss
  - D) Incudostapedial joint dislocation
30. A 30 year old woman is brought to emergency department following a road traffic accident. On arrival she is haemodynamically unstable and on examination has abdominal bruising. On FAST scan, no evidence of free fluid is seen. What is the approximate minimal detectable fluid volume by FAST scanning?
- A) 20 ml
  - B) 50 ml
  - C) 100 ml
  - D) 200 ml
31. On a plain film of right hand, a comminuted intra-articular fracture through the base of 1<sup>st</sup> metacarpal in thumb is seen. This is the description of which of the following fractures?
- A) Bennett's fracture
  - B) Rolando's fracture
  - C) Gamekeeper's thumb
  - D) Barton's fracture
32. A 60-year-old woman undergoing follow-up CT under the care of the oncologist develops a new expansile lytic lesion. Which of the following primary tumors usually causes an expansile lytic metastasis?
- A) Cervix
  - B) Uterus
  - C) Thyroid
  - D) Ovary
33. In a patient with psoriatic arthritis, which of the follow findings on X-ray are not in favor of the diagnosis?
- A) Pencil-in-cup appearance in interphalangeal joint of the thumb.;
  - B) Erosions and reduced joint space in intercarpal and metacarpophalangeal joints.
  - C) Acro-osteolysis of terminal phalanx
  - D) Ray pattern with all 3 joints in one digit affected.

34. O' Donoghue unhappy triad or terrible triad in MRI of knee refers to injury of following structures except
- A) Medial collateral ligament
  - B) Lateral collateral ligament
  - C) Anterior cruciate ligament
  - D) Medial/Lateral meniscus
35. A 24-year-old man was involved in a road traffic accident. CT of the left knee shows isolated 5 mm depression of the lateral tibial plateau. What is the Schatzker classification of this fracture?
- A) Type 1
  - B) Type 2
  - C) Type 3
  - D) Type 4
36. A 65 year old male patient is referred to CT for unexplained abdominal distension. Low attenuation intraperitoneal collections with enhancing septae causing scalloping of liver border are seen with omental thickening. Which one of the following is most likely to be the underlying cause?
- A) Carcinoid tumour of the appendix
  - B) Sclerosing peritonitis
  - C) Tuberculosis
  - D) Cystadenocarcinoma of the appendix
37. A 55-year-old patient presents with a right upper quadrant mass. He has a history of constipation with no weight loss. CT shows a 7cm mass in the left lobe of the liver, with peripheral nodular enhancement and delayed centripetal filling with low attenuation center. Which is the most likely diagnosis?
- A) Focal Nodular Hyperplasia (FNH)
  - B) Metastatic colon cancer
  - C) Cavernous haemangioma
  - D) Hepatocellular Carcinoma (HCC)



38. A patient with a history of alcohol abuse presents with epigastric pain. The ultrasound shows multiple hyperechoic lesions in the liver. Further evaluation on CT reveals a focal enhancing lesion in the head of the pancreas with hypervascular liver lesions. What is the most likely diagnosis?
- A) Pancreatitis and peptic ulcer perforation in an alcoholic patient
  - B) Pancreatic adenocarcinoma and liver metastases
  - C) Pancreatitis with associated peripancreatic abscess
  - D) Islet cell tumor with liver metastases.
39. A lesion is seen in liver on CT and ultrasound. It is to the left of right hepatic vein, but to the right of the middle hepatic vein. It is inferior of the confluence of the right and left portal veins. According to the Couinaud system, what segment of the liver is the lesion in?
- A) Segment 4b.
  - B) Segment 5.
  - C) Segment 6.
  - D) Segment 8.
40. MRI of a 40-year-old female shows a 5-cm lesion that is isointense to liver on T1WI and slightly hyperintense on T2WI. It has a central scar T2 hyperintense scar. On contrast-enhanced dynamic MRI, the lesion is hyperintense in the arterial phase, and isointense to liver in portal venous phase with delayed enhancement of the central scar. What is the diagnosis?
- A) Giant haemangioma
  - B) Hepatic adenoma
  - C) Hypervascular metastasis
  - D) Focal nodular hyperplasia (FNH)
41. 45-year-old male presents with a history of jaundice and RUQ pain. An ultrasound of the abdomen demonstrates an impacted calculus in the gallbladder neck. However, dilatation of the intrahepatic ducts is also seen. On MRCP, Mirizzi syndrome is suspected. Which of the following is seen in Mirizzi syndrome?
- A) Double duct sign
  - B) Dilated common hepatic and common bile ducts.
  - C) Dilated common hepatic duct with normal common bile duct.
  - D) Normal ducts

42. A 54-year-old man presents with persistent abdominal pain and fever. A CT of abdomen reveals ill-defined rounded areas in the root of the mesentery, with adjacent mild lymphadenopathy with some central calcification. A rim of preserved fat is seen surrounding the adjacent vessels. What is the most likely diagnosis?
- A) Sclerosing mesenteritis.
  - B) Desmoid tumour.
  - C) Metastatic disease.
  - D) Lymphoma.
43. A 71 year old female with scleroderma undergoes a barium swallow examination. Which of the following findings concerning the esophagus would not be consistent with this diagnosis?
- A) Esophageal dilatation
  - B) Hypoperistalsis in the upper third of the Esophagus
  - C) Hypoperistalsis in the lower 2/3<sup>rd</sup> third of the Esophagus
  - D) Esophageal shortening
44. A neonate is diagnosed with congenital tracheoesophageal (TE) fistula. A plain film demonstrates a gasless abdomen. Which type of TE fistula is associated with this finding?
- A) Type B
  - B) Type C
  - C) Type D
  - D) Type E
45. A young patient is diagnosed with multiple endocrine neoplasia (MEN) type 2b after an episode of bowel obstruction. Which one of the following features would he be unlikely to have or develop in the future with this diagnosis?
- A) Facial angiofibromas
  - B) Marfanoid appearance
  - C) Mucosal neuromas of the small bowel
  - D) Medullary carcinoma of the thyroid

46. A 55 year old woman is investigated for weight loss, and undergoes contrast enhanced CT scan of the abdomen and pelvis. Multiple hyper-vascular metastases are found in the liver. Which one of the following is most likely to be the primary tumor?
- A) Pancreatic ductal carcinoma
  - B) Invasive ductal carcinoma of the breast
  - C) Carcinoid tumour
  - D) Adenocarcinoma of the sigmoid colon
47. A 28 year old female presents with abdominal cramps and pain with rectal bleeding. Colonoscopy is normal. CT enteroclysis reveals multiple sessile polyps throughout the jejunum and ileum. Subsequent biopsies reveal these polyps to be hamartomas. Which one of the following syndromes is associated with these findings?
- A) Peutz-Jeghers
  - B) Cowden's
  - C) Gardner's
  - D) Familial polyposis
48. A 41 year old woman has an outpatient ultrasound scan for intermittent right upper quadrant pain. Five 5 mm gallstones and sludge are present. In addition, there is wall thickening of the gallbladder fundus with multiple foci of increased echogenicity within the wall, each associated with bright comet tail artefacts deep to them. Which one of the following is the most likely diagnosis?
- A) Porcelain gallbladder
  - B) Emphysematous cholecystitis
  - C) Acute cholecystitis
  - D) Adenomyomatosis of the gallbladder
49. A 53 year old male is investigated for recurrent episodes of biliary colic. Blood tests reveal eosinophilia and normal liver function tests. Abdominal ultrasound demonstrates a 7 cm cystic structure with a thin hyperechoic wall and several smaller satellite cysts up to 2 cm adjacent to the lesion. Which one of the following diagnoses is most likely?
- A) Hydatid cyst
  - B) Pyogenic abscess
  - C) Amoebic abscess
  - D) Schistosomiasis

50. A 65-year-old woman is admitted with abdominal pain. ERCP shows generalized dilated intrahepatic and extrahepatic ducts with multifocal strictures and small diverticulae formation. The most likely diagnosis is?
- A) Primary sclerosing cholangitis
  - B) Choledochoceles
  - C) Caroli's disease
  - D) Cholangiocarcinoma
51. A 48-year-old woman presents with history of upper abdominal pain, weight loss and bilateral ankle oedema. CT abdomen shows thickened gastric wall with prominent mucosal folds affecting the proximal part of the stomach mainly involving the fundus and greater curvature, while the antrum, pylorus and rest of the bowel appear normal. The most likely diagnosis is?
- A) Crohn's disease
  - B) Linitis plastica
  - C) Ménétrier's disease
  - D) Eosinophilic gastritis
52. A 60-year-old man presents with abdominal pain. Enteroclysis shows a contrast filled intraluminal sac in second part of the duodenum. Contrast enhanced CT shows two 'duodenal lumina'. The medial lumen contains an air-fluid level and causes medial displacement of the pancreatic head. The most likely diagnosis is?
- A) Duodenal duplication cyst
  - B) Duodenal diverticulum
  - C) Pancreatic pseudocyst
  - D) Periapillary tumour
53. A 15-year-old boy presents with a history of recurrent abdominal pain and several episodes of melaena. Radionuclide imaging with  $^{99m}\text{Tc}$  pertechnetate demonstrates focal uptake in the right lower abdomen. The most likely diagnosis is?
- A) Intussusception
  - B) Appendicitis
  - C) Inflammatory bowel disease
  - D) Meckel's diverticulum

54. A 15-year-old student presents with history of seizures. CT shows multiple cortical and sub cortical calcified lesions. Gadolinium-enhanced MRI of the head shows multiple enhancing masses in the subependymal regions. A contrast-enhanced CT of abdomen shows multiple low-density masses in the liver and a large mixed attenuation mass lesion in right kidney. The most likely diagnosis is?
- A) Sturge–Weber syndrome
  - B) Tuberos sclerosis
  - C) Sarcoidosis
  - D) Klippel–Trenaunay syndrome
55. A newborn with Down’s syndrome presents with bilious vomiting. The mother had polyhydramnios during pregnancy. The radiograph of chest and abdomen demonstrated a ‘double bubble’ sign. No intestinal gas is seen in the rest of abdomen. The most likely diagnosis is?
- A) Intestinal duplication
  - B) Choledochal cyst
  - C) Midgut malrotation
  - D) Duodenal atresia
56. A premature baby of a diabetic mother delivered by caesarean section develops tachypnoea soon after birth. Chest radiographs show hyperinflated lungs with prominent interstitial markings and prominent horizontal fissure. These changes resolved after 3 days. The most likely diagnosis is?
- A) Respiratory distress syndrome
  - B) Meconium aspiration syndrome
  - C) Transient tachypnoea of the newborn
  - D) Left heart failure
57. A neonate born with a history of prolonged labour has a routine cranial ultrasound which showed dilated lateral ventricles. A subsequent MRI of brain and spine is performed which showed a small posterior fossa, herniated cerebellar tonsils through foramen magnum hydrocephalus. In the spine, there is a posterior outpouching containing CSF and neural placode at the lower lumbar spine. What is the most likely diagnosis?
- A) Dandy–Walker malformation
  - B) Chiari type II malformation
  - C) Chiari type III malformation
  - D) Hydranencephaly

58. A 1-year-old child presents with a swollen and painful left wrist. X-ray of the wrist shows a metaphyseal corner fracture of the left distal ulna. What is the most likely diagnosis?
- A) Osteogenesis imperfecta
  - B) Post traumatic
  - C) Battered child syndrome
  - D) Scurvy
59. A ten day old baby is referred for a hip ultrasound as clinical examination has revealed a 'clicky' right hip. Which of the following parameters is reassuring for a normal hip joint?
- A) Alpha angle  $>60$
  - B) Beta angle  $>77$
  - C) 25% coverage of the femoral head
  - D) Acetabular angle  $>33$
60. A ten year old boy presents with a history of progressive gait abnormalities. MRI demonstrates an eccentric, ill-defined, intramedullary lesion in a long segment of spinal cord appearing hypointense on T1 and hyperintense on T2 images with peritumoral cyst. No hemosiderin cap or flow voids are seen. There is patchy, irregular enhancement post-contrast. What is the most likely diagnosis?
- A) Lipoma
  - B) Ependymoma
  - C) Astrocytoma
  - D) Haemangioblastoma
61. A plain film taken of a five year old boy following a fall shows a fracture of the distal radius. The fracture runs through the physis and the epiphysis, but the metaphysis is not involved. The correct classification of this fracture is:
- A) Salter Harris I
  - B) Salter Harris II
  - C) Salter Harris III
  - D) Salter Harris IV

62. In a patient with Turner syndrome with upper limb hypertension and a murmur. Which of the following signs is likely on the CXR PA films?
- A) Boot-shaped heart
  - B) Snowman sign
  - C) Figure-of-three-sign
  - D) Scimitar sign
63. The mother of a three week old child notices a swelling in baby's lower neck with torticollis. The child is otherwise well. There is a history of child delivered by forceps. Ultrasound scan reveals homogeneous enlargement of the lower third of the right sternocleidomastoid muscle but no focal lesion is identified. T2-weighted MRI shows diffuse abnormal high signal intensity over the same area. The most likely diagnosis is:
- A) Cystic hygroma
  - B) Branchial cleft cyst
  - C) Fibromatosis colli
  - D) Neuroblastoma
64. A neonate has symptoms of urinary obstruction. An ultrasound was performed that showed a distended urinary bladder with bilateral hydronephrosis and a key hole sign. Which one of the following is the most likely underlying pathology?
- A) Posterior urethral valve
  - B) Neurogenic bladder
  - C) Ureterocele
  - D) Urethral diverticulum
65. A 14 year old with severe thalassaemia presents with mild breathlessness. The only abnormality on the chest radiograph is a well-rounded opacity without any air bronchogram. The likely location would be:
- A) Perihilar
  - B) Apical
  - C) Abutting the chest wall
  - D) Paravertebral

66. A neonate is found to have hypotonic abdominal wall musculature, and further investigations reveal bowel malrotation and cryptorchidism. Which of the following conditions is most likely?
- A) Prune belly syndrome
  - B) Zellweger syndrome
  - C) Wolman disease
  - D) Wunderlich syndrome
67. A 15-year-old boy is homozygous for the delta F508 mutation for cystic fibrosis. He has poor weight gain and is diagnosed as having pancreatic insufficiency. What is the most likely imaging finding in his pancreas?
- A) Replacement of entire pancreatic parenchyma with cysts.
  - B) Diffuse fatty infiltration and fibrosis.
  - C) Diffuse pancreatic calcification
  - D) Dorsal pancreatic agenesis
68. A 3-year-old boy is investigated via MRI brain for developmental delay and intractable seizures. Which of the following findings is in keeping with a diagnosis of schizencephaly?
- A) Intracerebral cleft lined by gray matter connecting the lateral ventricle to the subarachnoid space.
  - B) Smooth cortical surface with absence of convolutions.
  - C) Multiple small, irregular cortical convolutions without intervening sulci.
  - D) Circumferential, symmetric band of heterotopic grey matter deep to the cortical surface.
69. An 18-month-old girl presents with increasing incoordination and developmental regression. T2WI demonstrates confluent high signal within the periventricular white matter and centrum semiovale, with radiating linear low signal intensity, giving a 'tigroid' pattern. Sparing of subcortical U fibres is also noted. What is the most likely diagnosis?
- A) Krabbe disease.
  - B) Metachromatic leucodystrophy.
  - C) Canavan disease
  - D) Alexander disease.



70. An 8-month-old child presents with gradually increasing abdominal swelling. An ultrasound scan of abdomen is performed and this shows a large liver mass, which is well-defined and slightly hyperechoic to surrounding hepatic parenchyma. A subsequent CT scan confirms a solitary heterogeneous, but predominantly hypodense, liver mass with some calcification. The serum alpha-fetoprotein is elevated. What is the most likely diagnosis?
- A) Hepatic angiosarcoma.
  - B) Mesenchymal hamartoma.
  - C) Hepatoblastoma.
  - D) Hepatocellular carcinoma.
71. A 12-year-old male presents with a history of sudden onset of severe pain in the right testis. On examination, the right testis is tender and higher in position compared to the left side. An ultrasound of testes is requested. Which of the following statements regarding testicular torsion is true?
- A) Torsion results in arterial obstruction first followed by venous obstruction.
  - B) The testis is usually salvageable if corrected within 24 hours.
  - C) Visualization of whirlpool sign is specific for torsion.
  - D) Clinical differentiation between testicular torsion and epididymo-orchitis is straightforward.
72. A pregnant mother is having an antenatal fetal anomaly scan and a large hernia arising from the anterior abdominal wall of the fetus is seen. Which of the following findings makes an omphalocele more likely than a gastroschisis?
- A) Absence of peritoneal covering.
  - B) The presence of the stomach in the hernia.
  - C) The umbilical cord inserting at the apex of the hernia.
  - D) Paramedian defect.
73. A 5-year-old boy with bilateral wrist pain undergoes a plain film which reveals several pedunculated bony outgrowths from the metaphyses of both radii, which point away from the adjacent joints. What is the most likely diagnosis?
- A) Ollier disease.
  - B) Maffucci syndrome.
  - C) Morquio syndrome.
  - D) Diaphyseal aclasia.

74. An infant is of short stature and undergoes a skeletal survey. This reveals markedly shortened femora and humeri, although the other long bones are also greatly affected. The vertebral bodies are moderately flattened and there is a reduction in the interpedicular distance in a caudal direction in the spine. What is the diagnosis?
- A) Thanatophoric dysplasia.
  - B) Achondroplasia.
  - C) Chondrodysplasia punctata.
  - D) Cleidocranial dysplasia.
75. A neonate presents with abdominal distension, vomiting and failure to pass meconium. A water-soluble contrast enema is performed and shows a narrow rectum with a cone-shaped transition zone to a dilated, more proximal bowel. Which one of the following is the most likely diagnosis?
- A) Necrotizing enterocolitis
  - B) Hirschsprung's disease
  - C) Meconium ileus
  - D) Cystic fibrosis
76. A four year old boy presents with a painful subgaleal mass and painful right arm. Radiographs reveal a well-defined ovoid, lytic lesion with beveled edge in the right parietal bone and another well-defined defect in the left temporal bone. There is also an ill-defined expansile lytic lesion in the shaft of the right humerus. T1-weighted post-contrast MRI shows that the parietal lesion is associated with an intensely enhancing soft-tissue mass. What is the most likely diagnosis?
- A) Langerhans' cell histiocytosis
  - B) Multifocal osteomyelitis
  - C) Fibrous dysplasia
  - D) Multiple myeloma
77. A three year old boy is seen in the outpatient department following recurrent urinary tract infections. Which one of the following imaging modalities would be most appropriate to detect the extent of renal scarring?
- A) Tc-99m DTPA scintigraphy
  - B) Tc-99m DMSA scintigraphy
  - C) MAG-3 renogram
  - D) Micturating cystourethrography

78. A 50 year old woman presents with vision loss. Examination reveals retinal detachment and an ocular lesion. On MRI, the lesion is hyperintense on T1 and hypointense on T2 relative to the vitreous. The lesion enhances post-gadolinium injection. The most likely diagnosis is:
- A) Metastases from breast cancer
  - B) Vitreous lymphoma
  - C) Choroidal haemangioma
  - D) Uveal malignant melanoma
79. A 35 year old previously well female consults an ophthalmologist with a history of progressive loss of visual acuity over several months. Retinal examination reveals papilloedema. Unenhanced CT shows tubular thickening of the optic nerve associated with dense calcifications. Post-contrast injection shows a non-enhancing optic nerve surrounded by a markedly enhancing soft-tissue mass. The remainder of the brain is normal. The most likely diagnosis is:
- A) Optic nerve glioma
  - B) Periopic menigioma
  - C) Sarcoidosis
  - D) Multiple sclerosis
80. CT head of a 68 year old male shows an intra-parenchymal bleed. On MRI the lesion is hyperintense on T1 and hypointense on T2-weighted imaging. Which of the following stages of hemorrhage best correlates with the MRI findings?
- A) Haemosiderin
  - B) Extracellular methaemoglobin
  - C) Intracellular methaemoglobin
  - D) Deoxyhaemoglobin
81. CT scan of a 20 yr old reveals a well-defined, non-enhancing, hypodense cystic lesion located between the longus colli muscles in the posterior roof of the nasopharynx. On MRI, It shows high signal intensity on both T1 and T2 sequences. The most likely diagnosis is:
- A) Benign polyp
  - B) Rathke's pouch cyst
  - C) Ranulas
  - D) Tornwaldt's cyst

82. A 30-year-old male patient is referred from ENT for an MRI with a history of tinnitus and slight hearing loss on the left side. A lesion is noted in the left cerebellopontine angle. This extends along the nerve and expands the internal auditory canal. A separate nerve is noted to enter the anterior superior portion of the internal auditory canal. The lesion is isointense to the pons on all pulse sequences. There is no evidence of a dural tail following enhancement. What is the most likely cause?
- A) Meningioma.
  - B) Facial nerve schwannoma.
  - C) Vestibular nerve schwannoma.
  - D) Epidermoid cyst.
83. A patient is having an MRI scan carried out to investigate a possible right frontal astrocytoma, incidentally detected on CT following a head injury. MR spectroscopy has been carried out to help assess the grade of this tumour. What MRS features would indicate a high grade lesion?
- A) Elevated choline, reduced N-acetyl aspartate (NAA), choline/creatine (ChoCr) ratio of 1
  - B) Elevated choline, reduced NAA, Cho/Cr ratio of 2
  - C) Normal choline, elevated NAA
  - D) Reduced choline, reduced NAA. Cho/Cr ratio of 1.2
84. An 80-year-old man presents acutely with a dense hemiplegia. CT perfusion is performed soon after admission, which suggests that the entire involved arterial territory is beyond recovery. Which of the following options represents the most likely combination of cerebral blood flow, mean transit time and cerebral blood volume, respectively, seen within the affected brain parenchyma, compared with unaffected parenchyma?
- A) Increased, increased, increased
  - B) Increased, increased, decreased
  - C) Decreased, increased, decreased
  - D) Decreased, decreased, decreased
85. A 50-year-old male presents with a history of intermittent epistaxis, nasal obstruction, and frontal headache. He undergoes a CT of the sinuses that demonstrates an isodense soft-tissue mass filling the right maxillary antrum with extension through the infundibulum into the nasal cavity. There is associated bony remodelling of the infundibulum. On MRI, the mass is isointense to muscle on T1WI and T2WI, and demonstrates a convoluted cerebriform pattern on enhanced T1WI. The remainder of the sinuses are unremarkable. What is the diagnosis?
- A) Fungal sinusitis
  - B) Inverted papilloma
  - C) Antrochoanal polyp
  - D) Sinonasal carcinoma

86. You are reporting a CT scan of neck in a patient with a head and neck cancer. You see an enlarged necrotic submandibular lymph node on the right side and wish to describe the appropriate level of this lymph node in your report. What is the correct level?
- A) Ia.
  - B) II
  - C) Ib
  - D) III
87. A 50-year-old male undergoes MRI neck on which a soft-tissue mass is noted in right suprahyoid deep cervical neck space. The mass displaces the right parapharyngeal space posteromedially. What is the location of the soft-tissue mass?
- A) Masticator space.
  - B) Carotid space.
  - C) Parotid space
  - D) Pharyngeal mucosal space.
88. "Face of giant Panda" sign in midbrain is seen in,
- A) Parkinson's disease.
  - B) Multisystem atrophy (MSA).
  - C) Progressive supranuclear palsy (PSP).
  - D) Wilsons Disease
89. "Molar tooth" appearance in brain is seen in,
- A) Joubert's anomaly.
  - B) Blake's pouch cyst
  - C) Rhombencephalosynapsis
  - D) Aqueductal stenosis
90. Medusa head sign is seen
- A) Moya moya disease.
  - B) Developmental venous anomaly
  - C) Vein of Galen malformation
  - D) AV fistula

91. A 65-year-old man fell down the stairs and sustained injury to the neck. A peg view on X-ray shows increased space between the dens and medial border of lateral masses of C1 vertebra. CT showed fracture of the anterior and posterior arch of the C1 vertebra. What is the most likely diagnosis? (M)
- A) Hangman's fracture
  - B) Extension teardrop fracture
  - C) Jefferson fracture
  - D) Clay shoveller's fracture
92. A 35-year-old man presents with history of intermittent headaches. NCCT head demonstrates a 1 cm sized, homogeneously hyperdense, round lesion in the region of the interventricular foramen causing mild hydrocephalus. On MRI, the lesion shows high signal on T1 and T2W sequences. The most likely diagnosis is?
- A) Dermoid cyst
  - B) Ependymoma
  - C) Colloid cyst
  - D) Neurocytoma
93. A 15-year-old boy presents with a history of epilepsy and visual loss. A CT scan shows 'tram track' gyriform cortical calcifications with cortical atrophy in the region of calcifications. Post-contrast T1 images demonstrate focally enhancing leptomeninges and enlarged ipsilateral choroid plexus in the occipital horn. What is the most likely underlying condition?
- A) Tuberos sclerosis
  - B) Von Hippel-Lindau
  - C) Klippel-Trenaunay syndrome
  - D) Sturge-Weber syndrome
94. A 35-year-old woman presents with bilateral proptosis. CT of the orbits shows increased bulk of the inferior, medial and superior recti muscles, increased orbital fat and a dilated superior ophthalmic vein. What is the most likely diagnosis?
- A) Graves' disease
  - B) Non-Hodgkin's lymphoma
  - C) Orbital pseudo-tumor
  - D) Sarcoidosis

95. A 40-year-old female presents with palsies of III, IV, and VI cranial nerves and facial sensory loss in the distribution of the ophthalmic and maxillary divisions of the trigeminal (V) cranial nerve. Where is the causative abnormality located?
- A) Meckel's cave.
  - B) Cavernous sinus.
  - C) Superior orbital fissure.
  - D) Inferior orbital fissure.
96. Which of the following is the cause of rim nephrogram?
- A) Acute complete arterial occlusion
  - B) Acute ureteric obstruction
  - C) Polycystic kidney disease
  - D) Acute pyelonephritis
97. Regarding prostate MR, which of the following statements is true:
- A) The Peripheral Zone (PZ) and Transitional Zone (TZ) are difficult to distinguish on MR
  - B) For transition zone, DWI/ADC is the primary determining sequence to assign the PI-RADS assessment category.
  - C) For the peripheral zone the T2W imaging is the primary determining sequence to assign the PI-RADS assessment category.
  - D) Dynamic contrast enhancement in a peripheral zone lesion changes the PIRADS3 score to PIRADS 4 score
98. The voiding cystourethrogram reveals reflux into the renal pelvis bilaterally with mild ureteric and pelvic dilatation, but no calyceal dilatation and preserved forniceal angles. What grade of reflux does this patient have?
- A) Grade 5
  - B) Grade 2
  - C) Grade 3
  - D) Grade 4

99. A 56-year-old asymptomatic woman undergoes routine screening mammography. Which of the following forms of calcification raises greatest suspicion of ductal carcinoma in situ (DCIS)?

- A) Egg-shell
- B) Sedimented
- C) Tubular
- D) Pleomorphic

100. Which is the most likely to cause bilateral small rather than large kidneys?

- A) Polycystic kidney disease
  - B) Medullary cystic disease
  - C) PUJ obstruction
  - D) Nephroblastoma
-



# ROUGH WORK



**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **214345**

Test Booklet Series

**TEST BOOKLET  
GENERAL MEDICINE  
Written Test - 2023  
(64)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

**INSTRUCTIONS**

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.
2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.**
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.   
**DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. *See directions in the Response Sheet.*
6. *All* items carry equal marks.
7. Before you proceed to mark in the Answer /Response Sheet, the response to various items in the Test Booklet, you have to fill in some particulars in the Answer /Response Sheet as per instructions sent to you with your Admission Certificate.
8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
10. While writing Centre, Subject and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use **"ONLY BALL POINT PEN"**.
11. **Penalty for wrong answers:**  
**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
  - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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**(64) (A)/2023**

**[P.T.O.]**

(64) (A)

(2)

1. Primary afferents A-beta ( $A\beta$ ) fibers are characterised by following

- 1) Largest diameter afferent fibers
- 2) Respond maximally to light touch and/or moving stimuli
- 3) Primarily in nerves that innervate the skin
- 4) Cornea, are innervated only A-beta ( $A\beta$ ) fibers
- 5) Unmyelinated axons

Which of the following are correct.

- A) 1,2,4
- B) 1,2,5
- C) 3,4,5
- D) 1,2,3

2. The ability to detect painful stimuli is completely abolished when conduction in following fiber axon / axons is blocked.

- A) A-beta ( $A\beta$ )
- B) A-delta ( $A\delta$ ) and the unmyelinated (C) axons
- C) A-beta ( $A\beta$ ) and the unmyelinated (C) axons
- D) A-beta ( $A\beta$ ) and A-delta ( $A\delta$ )

3. Trigeminovascular system innervates the following via the trigeminal nerve.

- 1) Large intracranial vessels
- 2) Dura mater
- 3) Pia mater
- 4) Choroid plexus

Which of the following are correct.

- A) 1,3
- B) 2,4
- C) 1,2
- D) 3,4

4. Low CSF Volume Headache is characterised by following

- 1) Head pain is positional
- 2) Begins when the patient sits or stands upright
- 3) Resolves upon reclining
- 4) Occipitofrontal, dull ache
- 5) IV caffeine is safe and can be curative

Which of the following are correct.

- A) 1,2,3,4
- B) 2,3,4,5
- C) 2,3,5
- D) 1,2,3,4,5

5. Topiramate is the next treatment of choice after acetazolamide in patient with Idiopathic intracranial hypertension (pseudotumor cerebri); it has many actions that may be useful in this setting, including
- 1) Carbonic anhydrase inhibition
  - 2) Weight loss
  - 3) Neuronal membrane stabilization
  - 4) Act as analgesic
- Which of the following are correct.
- A) 2,3,4
  - B) 1,3,4
  - C) 1,2,3
  - D) 2,3
6. There are four receptors for PGE<sub>2</sub>, and each signals the cell in different ways. Of the four receptors following is essential for fever
- A) Prostaglandin E1 receptor (EP-1)
  - B) Prostaglandin E2 receptor (EP-2)
  - C) Prostaglandin E3 receptor (EP-3)
  - D) Prostaglandin E4 receptor (EP-4)
7. Fever increases the demand for oxygen i.e., for every increase of 1°C over 37°C, there is a following percent increase in oxygen consumption.
- A) 8%
  - B) 13%
  - C) 18%
  - D) 23%
8. Match the following skin Lesions with its description
- |            |   |
|------------|---|
| 1) Macule  | a) Lesions >5 mm in diameter with a flat, plateau-like surface                    |
| 2) Papule  | b) Lesions >5 mm in diameter with a more rounded configuration                    |
| 3) Plaque  | c) Flat lesions defined by an area of changed color (i.e., a blanchable erythema) |
| 4) Nodules | d) Raised, solid lesions <5 mm in diameter  |
- A) 1-d, 2-c, 3-a, 4-d
  - B) 1-c, 2-d, 3-a, 4-b
  - C) 1-c, 2-d, 3-b, 4-a
  - D) 1-d, 2-c, 3-b, 4-a

9. BPPV is a common cause of recurrent vertigo
- 1) Caused by free-floating otoconia that have moved into one of the semicircular canals
  - 2) Posterior canal the nystagmus beats upward and torsionally
  - 3) Horizontal canal BPPV, results in a horizontal nystagmus
  - 4) Most commonly otoconia enter horizontal canal
  - 5) Superior (also called anterior) canal involvement is rare.
- Which of the following statement regarding BPPV are correct.
- A) 1,2,4,5
  - B) 1,2,3,5
  - C) 1,3,4,5
  - D) 1,2,3,4
10. Graphesthesia refers to the capacity to recognize, with eyes closed
- A) Common objects by palpation, recognizing their shape, texture, and size.
  - B) Letters or numbers drawn by the examiner's fingertip on the palm of the hand
  - C) About a 3-mm separation of points on finger tips
  - D) Able to name, move, or touch specific fingers identified by the examiner
11. Approximately 5-7% of all pregnant women develop preeclampsia, following Specific clinical features qualify as evidence of severe disease
- 1) Severe hypertension (blood pressure  $\geq 160/110$  mmHg)
  - 2) New-onset headache , visual changes, unremitting severe epigastric pain, or pulmonary edema
  - 3) Thrombocytopenia (platelets  $< 100 \times 10^9/L$ ),
  - 4) Renal insufficiency (creatinine  $> 1.1$  mg/dL)
  - 5) Liver impairment (elevation of transaminases to twice the normal concentration).
- Which of the following are correct.
- A) 3,4,5
  - B) 1,3,4,5
  - C) 2,3,4,5
  - D) 1,2,3,4,5
12. Anticoagulants increase the risk of epidural hematoma in women receiving neuraxial analgesia in labor and must be withheld prior to placement. Prophylactic LMWH must be stopped
- A) 06 h before placement of an epidural catheter
  - B) 12 h before placement of an epidural catheter
  - C) 24 h before placement of an epidural catheter
  - D) 48 h before placement of an epidural catheter

13. Anticoagulants increase the risk of epidural hematoma in women receiving neuraxial analgesia in labor and must be withheld prior to placement. Therapeutic LMWH must be withheld for
- A) 06 h before placement of an epidural catheter
  - B) 12 h before placement of an epidural catheter
  - C) 24 h before placement of an epidural catheter
  - D) 48 h before placement of an epidural catheter
14. For women with epilepsy planning pregnancy, following are first-line monotherapies
- 1) Lamotrigine
  - 2) Levetiracetam
  - 3) Carbamazepine
  - 4) Topiramate
  - 5) Oxcarbamazepine
- Which of the following are correct.
- A) 2,5
  - B) 2,3
  - C) 1,2
  - D) 2,4
15. Dual antiplatelet therapy (DAPT) (aspirin and P2Y12) may be interrupted to allow for noncardiac surgery after bare metal intracoronary stent (BMS)
- A) 30 days
  - B) 3 months
  - C) 6months
  - D) 12months
16. Dual antiplatelet therapy (DAPT) (aspirin and P2Y12) may be interrupted to allow for noncardiac surgery after drug-eluting stent (DES).
- A) 30 days
  - B) 3 months
  - C) 6 months
  - D) 12months
17. Caloric Restriction (CR) is one of the most important and robust interventions that delays aging, CR is defined as a reduction in the total caloric intake, without malnutrition of about
- A) 10%
  - B) 20%
  - C) 30%
  - D) 40%

18. Match the following

- |                                    |  |
|------------------------------------|--|
| 1) Point mutations                 | a) Variation of a single base pair in the DNA  |
| 2) Transitions                     | b) purine is replaced by another purine base or if a pyrimidine is replaced by another pyrimidine. |
| 3) Transversions                   | c) Variations involving single nucleotides   |
| 4) Missense mutation               | d) Changes from a purine to a pyrimidine, or vice versa  |
| 5) Single-nucleotide polymorphisms | e) DNA sequence change occurs in a coding region and alters an amino acid,                         |
- A) 1-d, 2-c, 3-e, 4-b, 5-a  
B) 1-c, 2-b, 3-d, 4-e, 5-a  
C) 1-c, 2-b, 3-d, 4-e, 5-a  
D) 1-d, 2-c, 3-b, 4-a, 5-e

19. Nonallelic or locus heterogeneity refers to the situation in which a similar disease phenotype results from mutations at different genetic loci, following is its example

- A) Osteogenesis imperfecta  
B) Emery-Dreifuss muscular dystrophy,  
C) Progeria syndromes  
D) Form of neuronal Charcot-Marie-Tooth disease

20. Following are characteristics of Inherited mitochondrial disorders

- 1) Transmitted in a matrilineal fashion  
2) All children from an affected mother will inherit the disease  
3) Transmitted from an affected father to his children  
4) Involves enzymes required for oxidative phosphorylation  
5) Broad clinical spectrum often involves (cardio)myopathies and encephalopathies
- Which of the following are correct.

- A) 1, 2, 3, 4, 5  
B) 1, 3, 4, 5  
C) 1, 2, 4, 5  
D) 1, 2, 3, 5

21. High altitude cerebral edema is managed by following

- 1) Immediate descent  
2) Hyper baric therapy if decent not possible  
3) Dexamethasone (8mg I/V,I/M, or oral then 4mg 6hourly)  
4) Adjunctive therapy with Nifedipine( 30mg extended release 12 hourly)  
5) Oxygen (2-4L /min)

Which of the following are correct.

- A) 1,2,5  
B) 1,2,4,5  
C) 1,2,3,4  
D) 1,2,3,5



22. An important advance in the care of people with epilepsy has been the application of genetic testing to help guide the choice of therapy match genetic testing with its implication

Mutation in the SLC2A1 gene

Mutations of the ALDH7A1 gene

Mutations in the sodium channel subunit SCN1A

Mutations in the SCN2A or SCN8A

sodium channel subunits

A) 1-a,2-b,3-c,4-d

B) 1-b,2-c,3-d,4-a

C) 1-b,2-a,3-c,4-d

D) 1-d,2-b,3-c,4-a

High-dose phenytoin

Ketogenic diet.

Pyridoxine

Avoid taking phenytoin or

lamotrigine

23. Asian individuals carrying the human leukocyte antigen (HLA) allele HLAB\* 1502 are at particularly high risk of developing serious skin reactions with following

1) Carbamazepine

2) Phenytoin

3) Oxcarbazepine

4) Lamotrigine

Which of the following are correct.

A) 1,3

B) 1,3,4

C) 1,2,3

D) 1,2,3,4

24. Gerstmann syndrome comprise following

1) Sensory agraphia

2) Acalculia

3) Alexia

4) Finger agnosia

5) Right-left confusion

Which of the following are correct.

A) 1,2,3

B) 2,3,4,5

C) 1,3,4,5

D) 3,4,5

25. Symptomatic intracranial hemorrhage in ischemic stroke within 3 h of onset with rtPA is

A) 3.4%

B) 4.4%

C) 5.4%

D) 6.4%

26. When selecting patients with AIS within 6 to 24 hours of last known normal who have LVO in the anterior circulation, following additional imagings are required to aid in patient selection for mechanical thrombectomy

- 1) Computed tomographic angiography (CTA)
- 2) Computed tomographic perfusion (CTP)
- 3) Magnetic resonance angiography (MRA)
- 4) Diffusion-weighted magnetic resonance imaging (DW-MRI)

Which of the following are correct.

- A) 1,2
- B) 3,4
- C) 2,3
- D) 2,4

27. ICH generally presents as the abrupt onset of a focal neurologic deficit, most common site for hypertensive hemorrhage is

- A) Thalamus
- B) Putamen
- C) Pontine
- D) Cerebellar

28. MRI brain imaging shows a pattern of typically posterior (occipital > frontal) brain edema that is reversible (reversible posterior leukoencephalopathy) is associated with

- A) Hypertensive encephalopathy
- B) Hashimoto's encephalopathy
- C) Uremic encephalopathy
- D) Wernicke's encephalopathy

29. Following angiographic features can be used to help predict future bleeding risk in patient with intracranial AVM.

- 1) Presence of deep venous drainage
- 2) Venous outflow stenosis
- 3) Intranidal aneurysms
- 4) Large lesion

Which of the following are correct.

- A) 3,4
- B) 2,4
- C) 1,2,3
- D) 2,3,4

30. Match following prodromal symptoms with the location of a progressively enlarging unruptured aneurysm

- |  |   |
|--|---|
| 1) Third CN palsy, pupillary dilation, loss of ipsilateral (but retained contralateral) light reflex, and focal pain above or behind the eye | a) Aneurysm in the cavernous sinus  |
| 2) Sixth nerve palsy   | b) Junction of the posterior communicating artery and the internal carotid artery       |
| 3) Visual field defects  | c) Posterior inferior cerebellar artery or anterior inferior cerebellar artery aneurysm |
| 4) Occipital and posterior cervical pain   | d) Supraclinoid carotid or anterior cerebral artery (ACA) aneurysm                      |
| 5) Pain in or behind the eye and in the low temple   | e) Expanding MCA aneurysm   |
- A) 1-b,2-a,3-d,4-e,5-c  
B) 1-b,2-a,3-d,4-c,5-e  
C) 1-b,2-a,3-c,4-d,5-e  
D) 1-a,2-b,3-e,4-c,5-d

31. HD is caused by an increase in the number of polyglutamine (CAG) repeats in the coding sequence of the huntingtin gene located on the short arm of chromosome 4. Disease manifest if repeats cut off are more than

- A) 10
- B) 20
- C) 30
- D) 40

32. All of the following myopathies would be inherited from the female parent except

- A) Myoclonic epilepsy with ragged red fibers (MERFF)
- B) Duchenne muscular dystrophy
- C) Kearns-Sayre syndrome
- D) Limb-girdle muscular dystrophy

33. Which of the following medicines has been most commonly implicated in the development of noninfectious chronic meningitis?

- A) Acetaminophen
- B) Acyclovir
- C)  $\beta$ -lactam antibiotics
- D) Ibuprofen

34. Most common systemic disorder that is associated with chorea is
- A) Hyperthyroidism
  - B) Sjögren's syndrome
  - C) Systemic lupus erythematosus
  - D) Polycythemia rubra vera
35. Hemiballism is a violent form of choreiform movement composed of wild, flinging, large-amplitude movements most frequently affecting proximal limb muscles on one side of the body. Its most common cause is a lesion in the
- A) Subthalamic nucleus (STN)
  - B) Putamen
  - C) Thalamus
  - D) Parietal cortex
36. Secondary Restless legs syndrome (RLS) may be associated with
- 1) Pregnancy
  - 2) Anemia
  - 3) ferritin deficiency
  - 4) renal failure
  - 5) peripheral neuropathy
- Which of the following are correct.
- A) 2,3,4
  - B) 1,3,5
  - C) 1,2,3,4
  - D) 1,2,3,4,5
37. Unilateral visual blurring may occur during a hot shower or with physical exercise (Uhthoff's symptom) commonly seen in
- A) Multiple sclerosis (MS)
  - B) Retinal migraine
  - C) Giant cell arteritis
  - D) Amaurosis fugax
38. Following monoclonal antibody therapies have now received regulatory approval for attack prevention in NMO
- 1) Eculizumab
  - 2) Inebilizumab
  - 3) Natalizumab
  - 4) Satralizumab
  - 5) Alemtuzumab
- Which of the following are correct.
- A) 1,2,3
  - B) 1,3,5
  - C) 3,4,5
  - D) 1,2,4

39. Fatal meningococcal infections have occurred in patients receiving this monoclonal antibody therapy, so they should be immunized with meningococcal vaccines at least 2 weeks prior to administering the first dose
- A) Eculizumab
  - B) Inebilizumab
  - C) Natalizumab
  - D) Satralizumab
40. Tinel's sign and the Froment sign is associated with following neuropathy
- A) Median neuropathy
  - B) Ulnar neuropathy at the elbow
  - C) Radial neuropathy
  - D) Lateral femoral cutaneous neuropathy
41. PR3/cANCA are associated with
- A) Eosinophilic granulomatosis with polyangiitis
  - B) Microscopic polyangiitis
  - C) Minocycline-induced vasculitis.
  - D) Polyarteritis nodosa (PAN)
42. Anti-Hu paraneoplastic neuropathy is uncommon immune-mediated disorder manifests as a sensory neuronopathy which selectively damages
- A) Sensory nerve bodies in dorsal root ganglia
  - B) Myelination
  - C) Axons
  - D) Schwann cell
43. The AChR consists of five subunits ( $2\alpha$ ,  $1\beta$ ,  $1\delta$ ,  $1\gamma$ , or  $\epsilon$ ) arranged around a central pore. Ach combines with the binding sites on the following subunit
- A)  $\beta$  subunits of the AChR
  - B)  $\delta$  subunits of the AChR
  - C)  $\alpha$  subunits of the AChR
  - D)  $\gamma$  subunits of the AChR
44. Deficiencies of early complement components C1, C4, or C2 can be associated with autoimmune disorders or with bacterial infections like
- A) Streptococcus pneumoniae
  - B) Klebsiella pneumoniae
  - C) Pseudomonas aeruginosa
  - D) Neisseria infections.

45. Which of the following is the most common clinical manifestation (cumulative) of relapsing polychondritis? Arrange in decreasing order
- 1) Aortic regurgitation
  - 2) Arthritis of weight-bearing joints
  - 3) Auricular chondritis
  - 4) Reduced hearing
  - 5) Saddle-nose deformity
- A) 3,4,2,5,1  
 B) 3,2,4,5,1  
 C) 2,3,5,4,1  
 D) 2,4,3,1,5
46. What is the most common extraarticular manifestation of ankylosing spondylitis?
- A) Anterior uveitis
  - B) Aortic regurgitation
  - C) Cataracts
  - D) Inflammatory bowel disease
47. All the following organisms have been implicated in reactive arthritis except
- A) Chlamydia trachomatis
  - B) Neisseria gonorrhoeae
  - C) Salmonella enteritidis
  - D) Shigella dysenteriae
48. Arrange the Prevalence of clinical manifestation in Systemic Lupus Erythematosus in decreasing order
- 1) Arthralgias/myalgias
  - 2) Polyarthritis
  - 3) Photosensitivity
  - 4) Malar rash
  - 5) Oral ulcers
- A) 1,3,2,4,5  
 B) 2,1,3,5,4  
 C) 3,2,1,4,5  
 D) 3,1,2,5,4
49. Percentage of people with DLE who have SLE (although half have positive ANA) is about
- A) 5%
  - B) 10%
  - C) 15%
  - D) 20%

50. Antibodies to C1q are not specific or sensitive for SLE; however, they are highly associated with
- A) Active lupus nephritis
  - B) Increased risk for venous or arterial clotting
  - C) Disease activity
  - D) Myocarditis and fibrinous endocarditis of Libman-Sacks

51. In patient Systemic Lupus Erythematosus (SLE) certain available laboratory test changes may predict flare

- 1) Falling complement
- 2) Rising anti-DNA
- 3) Rising anti-Sm antibodies
- 4) Increased proteinuria

Which of the following are correct.

- A) 2,3,4
- B) 1,2,4
- C) 1,3,4
- D) 1,2,3

52. Potential retinal toxicity in patients receiving Hydroxychloroquine after cumulative doses of 1000 g, ~ 5 years of continuing therapy is

- A) 4%
- B) 6%
- C) 8%
- D) 10%

53. Systemic Lupus Erythematosus Disease Activity Score- 2K (SLEDAI-2K), SLEDAI-2K is a widely used measure of SLE disease activity; scores >3 reflect clinically active disease. Match correct score with manifestation

- |                     |      |
|---------------------|------|
| 1) Active arthritis | a) 4 |
| 2) Proteinuria      | b) 2 |
| 3) vasculitis       | c) 4 |
| 4) leukopenia       | d) 1 |
| 5) Low complement   | e) 8 |

- A) 1-a, 2-e, 3-c, 4-b, 5-d
- B) 1-a, 2-c, 3-e, 4-d, 5-b
- C) 1-a, 2-b, 3-e, 4-d, 5-c
- D) 1-b, 2-e, 3-a, 4-d, 5-c

54. Patients of Systemic Lupus Erythematosus Disease should be prescreened for homozygous deficiency of the TMPT enzyme for before following medication
- Cyclophosphamide
  - Mycophenolate
  - Calcineurin inhibitors
  - Azathioprine
55. Flexor tendon tenosynovitis leads to decreased range of motion, reduced grip strength, and "trigger" fingers, it is a frequent hallmark of
- Rheumatoid arthritis
  - Reactive arthritis
  - Psoriatic arthritis
  - Ankylosing spondylitis
56. Felty's syndrome is rare extra-articular manifestation of seropositive rheumatoid arthritis (RA) seen in <1% of patients and is defined by the clinical triad of following except
- Neutropenia
  - Thrombocytopenia
  - Splenomegaly
  - Nodular RA
57. In Rheumatoid arthritis Carriership of the SE alleles is associated with production of anti- ACPA and worse disease outcomes. Some of the HLA-DRB1 alleles bestow a high risk of disease
- HLA-DRB1 \*0401
  - HLA-DRB1 \*0101
  - HLA-DRB1 \*0404
  - HLA-DRB1 \*1001
58. Some of the HLA-DRB1 alleles confer protection from ACPA-positive RA
- HLA-DRB1\*0401
  - HLA-DRB1\*0101
  - HLA-DRB1\*1301
  - HLA-DRB1\*1001
59. Acute rheumatic fever (ARF) is a multisystem disease Some human leukocyte antigen (HLA) class II alleles appear to be associated with susceptibility
- HLA-DR4
  - HLA-DR5
  - HLA-DR6
  - HLA-DR7
  - HLA-DR51
- Which of the following are correct.
- 1,2
  - 3,4
  - 1,4
  - 2,5



60. In patients with acute rheumatic fever presenting with chorea, carditis is present in
- 30%
  - 40%
  - 45%
  - More than 50%
61. Frequency of Clinical Organ Involvement in Diffuse Cutaneous Systemic Sclerosis (SSc) arrange in decreasing order
- 1) Raynaud's phenomenon
  - 2) Skin involvement
  - 3) Intrstitial lung disease
  - 4) Esophageal involvement
  - 5) Calcinosis cutis
- Which of the following are correct.
- 1,2,4,3,5
  - 2,3,1,5,4
  - 2,3,1,5,4
  - 2,1,4,3,5
62. Antinuclear autoantibodies are detected in almost all patients with SSc. Following antibodies are mutually exclusive and highly specific for SSc.
- 1) Anti-topoisomerase I (Scl-70)
  - 2) Anti-centromere antibodies
  - 3) Antibodies directed against fibrillin-1,
  - 4) Antibodies to matrix metalloproteinases
  - 5) Antibodies to angiotensin II receptor
- Which of the following are correct.
- 1,3
  - 1,4
  - 1,2
  - 1,5
63. Among all autoimmune diseases, highest risk for lymphoma development is seen with
- systemic lupus erythematosus
  - Rheumatoid arthritis
  - Sjögren's syndrome
  - Systemic sclerosis (SSc)
64. In patients with Sjögren's syndrome Anticalponin-3 antibodies have been recently associated with the occurrence of
- Lung involvement
  - Raynaud;s phenomenon
  - Peripheral neuropathy
  - Autoimmune cholangitis

65. Arrange the Frequency of Clinical Manifestations in percentage throughout course of disease in patients of Granulomatosis with Polyangiitis in decreasing order
- 1) Sinusitis
  - 2) Pulmonary nodules
  - 3) Subglottic stenosis
  - 4) Glomerulonephritis
  - 5) Arthralgias / arthritis
- A) 1,4,2,5,3  
B) 4,1,5,3,2  
C) 1,4,5,2,3  
D) 4,1,2,5,3
66. Patients with eosinophilic granulomatosis with polyangiitis (Churg- Strauss) often exhibit nonspecific manifestations such as fever, malaise, anorexia, and weight loss, which are characteristic of a multisystem disease , arrange following manifestation in decreasing order
- 1) Pulmonary findings (severe asthmatic attacks and the presence of pulmonary infiltrates)
  - 2) Mononeuritis multiplex
  - 3) Skin lesions
  - 4) Allergic rhinitis and sinusitis
  - 5) Heart disease (myocarditis, pericarditis, endocarditis, or coronary vasculitis)
- A) 4,1,2,3,5  
B) 1,2,4,3,5  
C) 2,1,4,5,3  
D) 3,1,2,5,4
67. Arrange the Clinical Manifestations Related to Organ System Involvement in Polyarteritis Nodosa as percent incidence in decreasing order
- 1) Cardiac
  - 2) Musculoskeletal
  - 3) Peripheral nervous system
  - 4) Renal
  - 5) Gastrointestinal tract
- A) 4,2,3,1,5  
B) 2,4,3,5,1  
C) 3,2,4,1,5  
D) 2,4,3,1,5

68. Arrange Frequency of Arteriographic Abnormalities in Takayasu Arteritis in decreasing order

- 1) Subclavian artery
- 2) Common carotid
- 3) Renal artery
- 4) Abdominal aorta
- 5) Aortic arch or root

- A) 2,1,4,3,5
- B) 1,2,4,3,5
- C) 5,1,2,3,4
- D) 1,2,5,3,4

69. IgA vasculitis (Henoch-Schönlein) is a small-vessel vasculitis characterized by palpable purpura, arthralgias, gastrointestinal signs and symptoms, and glomerulonephritis various inciting agents are

- 1) Upper respiratory tract infections
- 2) Various drugs
- 3) Foods
- 4) Insect bites
- 5) Immunizations

Which of the following are correct.

- A) 1,2,3
- B) 2,3,4,5
- C) 3,4,5
- D) 1,2,3,4,5

70. Serum CK levels are elevated in 70-80% of patients with dermatomyositis (DM), in 10% of those with normal CK following is elevated

- A) Serum aldolase
- B) Aspartate transaminase (AST)
- C) Alanine transaminase (ALT)
- D) Lactate dehydrogenase (LDH)

71. A variety of primary vasculitides have also been reported to occur in association with relapsing polychondritis. One specific overlap is the "MAGIC" syndrome in which patients present with features of both relapsing polychondritis and
- A) Behçet's disease
  - B) Granulomatosis with polyangiitis
  - C) Eosinophilic Granulomatosis with Polyangiitis (Churg-Strauss)
  - D) Giant cell arteritis
72. Sarcoidosis is an inflammatory disease characterized by the presence of noncaseating granulomas, arrange Frequency of Common Organ Involvement at presentation in decreasing order
- 1) Lung
  - 2) Skin
  - 3) Eye
  - 4) Extrathoracic lymph nodes
  - 5) Neurologic
- A) 1,3,2,5,4
  - B) 1,2,4,3,5
  - C) 1,4,2,3,5
  - D) 1,2,4,5,3
73. Familial Mediterranean Fever The initial treatment of choice for FMF is daily oral colchicine, patients who do not respond to colchicine or cannot tolerate therapeutic doses can be given
- A) Interleukin -1 inhibitors
  - B) Interleukin -2 inhibitor
  - C) Interleukin-3 inhibitor
  - D) Interleukin-6 receptor antagonist
74. The Finkelstein sign is positive in following
- A) Impingement syndrome
  - B) Bicipital tendinitis
  - C) De quervain's tenosynovitis
  - D) Patellar tendinitis

75. Hand-Schüller-Christian disease is associated with

- 1) Diabetes insipidus
- 2) Exophthalmos
- 3) Punched-out lytic bone lesions
- 4) Granulomatous lesions visible on MRI
- 5) Characteristic axillary skin rash

Which of the following are correct.

- A) 1,2,3
- B) 3,4,5
- C) 1,3,4
- D) 1,2,3,4,5

76. Match the following familial pituitary tumor syndrome with gene mutation

- |                                   |                     |
|-----------------------------------|---------------------|
| 1) Multiple endocrine neoplasia 1 | a) AIP 11q13.2      |
| 2) Multiple endocrine neoplasia 4 | b) 11q13            |
| 3) Carney complex                 | c) CDKN1B 12p13     |
| 4) Familial pituitary adenoma     | d) PRKAR1A 17q23-24 |

- A) 1-a,2-c,3-d,4-b
- B) 1-b,2-c,3-d,4-a
- C) 1-c,2-d,3-a,4-b
- D) 1-d,2-c,3-b,4-a

77. Arginine vasopressin (AVP), also known as antidiuretic hormone, This antidiuretic effect is mediated via a G protein- coupled V2 receptor that increases intracellular cyclic AMP, thereby inducing translocation of following water channels into the apical membrane

- A) Aquaporin 1(AQP1)
- B) Aquaporin 2 (AQP 2)
- C) Aquaporin 3(AQP3)
- D) Aquaporin 4 (AQP 4)

78. Rare autosomal recessive forms of pituitary DI is due to mutations of the WFS1 gene, responsible for Wolfram's syndrome characteristic feature of syndrome are following

- 1) Diabetes insipidus
- 2) Diabetes mellitus
- 3) Optic atrophy
- 4) Neural deafness
- 5) On chromosome 4p16

Which of the following are correct.

- A) 1,2,3,5
- B) 1,3,4,5
- C) 1,2,3,4
- D) 1,2,3,4,5

79. Deficiency of AVP caused by an increased rate of degradation by an N-terminal aminopeptidase results in

- A) Dipsogenic DI
- B) Gestational DI
- C) Neurohypophyseal DI
- D) Iatrogenic polydipsia

80. Mutations in the MCT8 (monocarboxylate 8 transporter) gene have been identified in patients with X-linked psychomotor retardation and following thyroid function abnormalities

- 1) Low T4
- 2) High T3
- 3) High TSH
- 4) High T4
- 5) Low T3

Which of the following are correct.

- A) 1,3,5
- B) 1,2,3
- C) 3,4,5
- D) 2,3,4,

81. Arrange the following causes of Cushing's syndrome in decreasing order of frequency

- 1) ACTH producing pituitary adenoma
  - 2) Adrenocortical adenoma
  - 3) Adrenocortical carcinoma
  - 4) Ectopic ACTH syndrome
- A) 1,3,2,4  
B) 1,2,4,3  
C) 1,4,2,3  
D) 2,1,4,3

82. These agents that specifically cause DILI have a phenotype of autoimmune hepatitis with a high likelihood of positive antinuclear antibodies (ANAs) includes the following

- 1) Nitrofurantoin
- 2) Minocycline
- 3) Hydralazine
- 4)  $\alpha$ -methyl dopa
- 5) Flucloxacillin

Which of the following are correct.

- A) 1,2,5  
B) 2,3,4  
C) 2,3,4,5  
D) 1,2,3,4

83. Drug-induced cholestasis ranges from mild to increasingly severe, sclerosing cholangitis is associated with following

- A) Estrogens
- B) Amoxicillin-clavulanic acid
- C) Erythromycin estolate
- D) Floxuridine

84. Clinically, the distinction between a hepatocellular and a cholestatic reaction is indicated by the R value, An R value of  $<2.0$  is associated with
- Normal
  - Cholestatic injury
  - Hepatocellular injury
  - hepatocellular-cholestatic injury
85. Portal hypertension in the absence of cirrhosis, termed nodular regenerative hyperplasia, may result from alterations in hepatic architecture produced by excessive intake of
- Vitamin A
  - Nicotinic acid
  - Alcohol
  - Ketoconazole
86. Following is the most common cause of acute hepatitis
- HAV
  - HBV
  - HCV
  - HEV
87. Acute viral hepatitis occurs after an incubation period that varies according to the responsible agent. Match incubation period to its agent
- |                                      |                |
|--------------------------------------|----------------|
| 1) 15 to 45 days (mean, 4 weeks)     | a) Hepatitis A |
| 2) 14 to 60 days (mean, 5-6 weeks)   | b) Hepatitis B |
| 3) 15 to 160 days (mean, 7 weeks)    | c) Hepatitis C |
| 4) 30 to 180 days (mean, 8-12 weeks) | d) Hepatitis E |
- 1-a,2-b,3-c,4-d
  - 1-d,2-c,3-b,4-d
  - 1-c,2-d,3-a,4-b
  - 1-a,2-d,3-c,4-b
88. A false-positive test for IgM anti-HBc may be encountered in patients with high-titer of
- Rheumatoid factor
  - Nuclear antibody
  - Heterophile antibody
  - Antibodies to LKM



89. For persons exposed by sexual contact to a patient with acute hepatitis B, a single IM dose of HBIG, 0.06 mL/kg, should be given within
- A) 5 days of exposure
  - B) 7 days of exposure
  - C) 10 days of exposure
  - D) 14 days of exposure
90. Goodpasture's syndrome primarily injures both the lung and kidney because of the narrow distribution of the following domain of type IV collagen that is the target antigen.
- A)  $\alpha 2$  NC1 domain of type IV collagen
  - B)  $\alpha 2$  NC1 domain of type IV collagen
  - C)  $\alpha 3$  NC1 domain of type IV collagen
  - D)  $\alpha 4$  NC1 domain of type IV collagen
91. Autoantibodies against the M-type phospholipase A2 receptor is associated with
- A) Idiopathic membranous nephropathy
  - B) Primary focal and segmental glomerulosclerosis
  - C) Membranoproliferative glomerulonephritis
  - D) Mesangiolipiferative glomerulonephritis
92. Some patients also develop eosinophilic, PAS+ nodules called nodular glomerulosclerosis or Kimmelstiel-Wilson nodules it is associated with
- A) Idiopathic membranous nephropathy
  - B) Primary focal and segmental glomerulosclerosis
  - C) Membranoproliferative glomerulonephritis
  - D) Diabetic nephropathy
93. Some X-linked Alport's patients can be diagnosed with a skin biopsy revealing the lack of
- A)  $\alpha 2$ (IV) collagen
  - B)  $\alpha 3$ (IV) collagen
  - C)  $\alpha 4$ (IV) collagen
  - D)  $\alpha 5$ (IV) collagen
94. Hypertensive nephrosclerosis is fivefold more frequent in African Americans than whites. it is associated with following Risk alleles
- A) APOL1, a functional gene for apolipoprotein L1
  - B) APOL2, a functional gene for apolipoprotein L2
  - C) APOL3, a functional gene for apolipoprotein L3
  - D) APOL4, a functional gene for apolipoprotein L4

95. Patients with complement-mediated TMA/HUS are treated with
- A) Eculizumab
  - B) Rituximab
  - C) Bortezomib
  - D) Plasmapheresis
96. This drug accumulates in principal cells of the collecting duct by entering through the epithelial sodium channel (ENaC), where it inhibits glycogen synthase kinase 3 $\beta$  and downregulates vasopressin-regulated aquaporin water channels.
- A) Amphotericin B
  - B) Cidofovir
  - C) Lithium
  - D) Demeclocycline
97. Fibroblast growth factor 19 (FGF19), is secreted from the ileum into the bloodstream which is a
- A) Physiologic bile acid sensor
  - B) Hematopoietic developmental regulation
  - C) Regulation of the hair cycle
  - D) Regulate many cellular functions including cell proliferation, migration, and differentiation, as well as angiogenesis
98. Increased titers of anti- *Saccharomyces cerevisiae* antibody (ASCA) have been associated with
- A) Crohn,s disease
  - B) Ulcerative colitis
  - C) Celiac disease
  - D) Pernicious anemia
99. In patients with Primary sclerosing cholangitis (PSC) with Gallbladder polyps cholecystectomy is recommended, if a mass lesion is
- A) <1 cm in diameter
  - B)  $\geq$  1 cm in diameter
  - C)  $\geq$  1,5 cm in diameter
  - D)  $\geq$  2 cm in diameter

100. When given as a first-line agent for invasive *Aspergillus* infection, voriconazole commonly causes all of the following side effects

- 1) Drug-drug interactions
  - 2) Hepatotoxicity
  - 3) Photosensitivity skin rashes
  - 4) Renal toxicity
  - 5) Visual disturbances
- A) 1,2,3,4
  - B) 2,3,4,5
  - C) 1,2,4,5
  - D) 1,2,3,5
-

# ROUGH WORK

# ROUGH WORK

AL

**DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO**

Booklet Serial No. **214177**

**Test Booklet Series**

**TEST BOOKLET  
BLOOD BANK  
Written Test - 2023  
(57)**

**A**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

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2. Please note that it is the candidate's responsibility to encode and fill in the Roll Number and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.
3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside.   
**DO NOT write anything else** on the Test Booklet.
4. This Test booklet contains **100** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the best. In any case, choose **ONLY ONE** response for each item.
5. You have to mark all your responses **ONLY** on the separate Answer /Response Sheet provided. See directions in the Response Sheet.
6. **All** items carry equal marks.
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8. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator **only the Answer /Response Sheet**. You are permitted to take away with you the Test Booklet and **Candidate's Copy of the Response Sheet**.
9. Sheets for rough work are appended in the Test Booklet at the end.
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**THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).**
  - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
  - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
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**(57) (A)/2023**

**[P.T.O.]**

(57) (A)

(2)

1. Which of the following correctly identifies the antigen that would be found on RBC in an individual who has the H, A, B, Le and Se genes
  - A) A, B, H, Le<sup>a</sup>
  - B) A, B, H, Le<sup>b</sup>
  - C) Le<sup>a</sup> only
  - D) Le<sup>b</sup> only
  
2. When a Rh gene on one chromosome affects the action of another Rh gene on the opposite chromosome in terms of increased or decreased antigen production, it is referred to as
  - A) Cis effect
  - B) Trans effect
  - C) Dosage effect
  - D) Null effect
  
3. In an emergency, Rh negative red cells are transfused to Rh positive person of the genotype Cde / CDe. The most probable antibody most likely to develop is
  - A) Anti -c
  - B) Anti E
  - C) Anti -d
  - D) Anti-e
  
4. A patient was diagnosed as a case of rapidly progressive glomerulonephritis anti neutrophil cytoplasmic antibody (ANCA) associated dialysis dependent. What is the role of therapeutic plasma exchange in this situation based on ASFA guidelines?
  - A) Category 1
  - B) Category 2
  - C) Category 3
  - D) Category 4
  
5. The cellular marker used to quantify collection of hematopoietic stem cells is
  - A) CD4
  - B) CD33
  - C) CD34
  - D) CD44
  
6. What do Coombs' control cells consist of
  - A) Type-A positive cells coated with anti-D
  - B) Type-A negative cells coated with anti-D
  - C) Type-O positive cells coated with anti-D
  - D) Type-O negative cells coated with anti-D



7. Polyethylene glycol enhances antigen-antibody reactions by
- Decreasing zeta potential
  - Concentrating antibody by removing water
  - Increasing antibody affinity for antigen
  - Increasing antibody specificity for antigen.
8. Which of the following most commonly causes an individual to type RhD positive yet posses anti-D?
- Genetic Weak D
  - Partial D
  - C in trans to RhD
  - D epitopes on RhCE protein
9. Rh antibodies have been associated with which of the following clinical conditions?
- Erythroblastosis fetalis
  - Thrombocytopenia
  - Hemophilia A
  - Stomatocytosis
10. Blood donor and recipient sample must be stored for a minimum how many days following transfusion?
- 2 days
  - 5 days
  - 7 days
  - 10 days
11. Which of the following is decreased as a result if T-Cell depletion of allogenic HPC collections?
- Infections
  - Graft vs host disease
  - Graft vs Leukaemia effect
  - Graft failure
12. A 45-year-old patient with dengue fever and platelet count of 10000/ $\mu$ l with bleeding gums and epistaxis is advised to have single donor platelet transfusion. Patient is B positive but due to non-availability of donor of same group O positive SDP is issued to the patient considering the urgency. Patient develops pain in the back, red colored urine and oliguria post transfusion What is the most likely cause of these symptoms?
- Anaphylaxis
  - Hemolytic transfusion reaction
  - Post transfusion purpura
  - Graft versus host disease



19. Which of the following best describes MN antigens and antibodies?
- A) Well developed at birth, susceptible to enzymes, generally saline reactive
  - B) Not well developed at birth, susceptible to enzymes, generally saline reactive
  - C) Well developed at birth, not susceptible to enzymes, generally saline reactive
  - D) Well developed at birth, susceptible to enzymes, generally antiglobulin reactive.
20. All are well documented indications for irradiated blood components **except**
- A) Intrauterine transfusions
  - B) Red cell exchange
  - C) Congenital immunodeficiencies
  - D) Granulocyte component
21. Which portion of the immunoglobulin molecule has a complement binding site?
- A) Variable region of heavy chain
  - B) Antibody binding fragment
  - C) Constant region of heavy chain
  - D) Variable region of light chain
22. Which of the following recognize and respond to foreign antigens in association with the MHC class II molecules?
- A) B cells
  - B) T helper cells
  - C) Cytotoxic T cells
  - D) Plasma cells
23. What is the recommended ratio of serum to cells suspended in normal saline to avoid false negative result?
- A) 2:1
  - B) 1:2
  - C) 3:1
  - D) 1:3
24. Red blood cells repel each other due to the negative charge imparted by the sialic acid on the surface of the red cells. This prevents adhering of red cells to each other. Which of the following refers to the net negative charge surrounding red blood cells?
- A) Dielectric constant
  - B) Zeta potential
  - C) Van der Waals forces
  - D) Hydrogen bonding
25. Which of the following reagents would you prefer for routine blood grouping for your patients
- A) Monoclonal
  - B) Polyclonal
  - C) Monospecific
  - D) Polyspecific

26. A 27-year-old female patient developed acute immune mediated hemolytic transfusion reaction due to ABO mismatched transfusion. Patient developed features of acute intravascular hemolysis with hemoglobinemia and hemoglobinuria. Which of the following pathways is implicated in such a reaction?
- Embden Meyerhoff pathway
  - Alternative complement pathway
  - classical complement pathway
  - Oxidative phosphorylation pathway
27. Comparison of measurement performed with an instrument to those with a known standard corresponds to which of the following terms?
- Validation
  - Process control
  - Verification
  - Calibration
28. Type 1 precursor chain has
- Terminal galactose in a 1-3 linkage to subterminal N acetylglucosamine
  - Terminal galactose in a 1-4 linkage to subterminal N acetylglucosamine
  - Terminal fucose in a 1-3 linkage to subterminal N acetylglucosamine
  - Terminal fucose in a 1-4 linkage to subterminal N acetylglucosamine
29. Which of the following pathways activates complement by recognizing polysaccharides and liposaccharides found on the surfaces of bacteria and tumor cells?
- Classical pathway
  - Alternate pathway
  - Lectin pathway
  - Cell mediated pathway
30. Which antigen is routinely destroyed by enzymes?
- Anti-P<sub>1</sub>
  - Anti-Js<sup>a</sup>
  - Anti-Fy<sup>a</sup>
  - Anti-Jk<sup>a</sup>
31. When a female possesses a phenotypic trait that is expressed in all her sons and none of her daughters, the trait is said to be
- X-Linked dominant
  - X-linked recessive
  - Autosomal dominant
  - Autosomal recessive
32. Which of these organisms is most likely implicated in bacterial contamination during thawing of plasma in contaminated water bath?
- Staphylococcus aureus
  - Pseudomonas Aeruginosa
  - Yersinia enterocolitica
  - Klebsiella pneumoniae

33. What is the biological half-life of IgM?  
 A) 5 days  
 B) 7 days  
 C) 14 days  
 D) 21 days
34. A group B recipient received a group A allogenic HPC transplant. Which of the following would describe the best choices for transfusion support during the transplant procedure?  
 A) Group O red cells and AB Plasma / Platelets  
 B) Group O red cells and A Plasma / Platelets  
 C) Group B red cells and AB Plasma/ Platelet  
 D) Group A red cells and AB Plasma / Platelets
35. An ABO type on a patient gives the following reactions:

Patient cells with			Patient serum with	
Anti-A	Anti-B	Anti-A <sub>1</sub>	A <sub>1</sub> cells	B cells
4+	4+	Neg	2+	Neg

The reaction above may be seen in a patient who is

- A) A<sub>1</sub> with acquired B  
 B) A<sub>2</sub>B with anti-A<sub>1</sub>  
 C) AB with increased concentration of protein in the serum  
 D) AB with an autoantibody
36. The immune system of the body generates antibodies against foreign antigens. The immune system in a healthy individual can recognize self-antigens and protect against attacking body's own cells. What is this mechanism known as?  
 A) Tolerance  
 B) Endurance  
 C) Allowance  
 D) Survival
37. Which cells require the help of major histocompatibility complex molecules to recognize foreign antigens?  
 A) T Helper cells  
 B) B cells  
 C) T cytotoxic cells and B cells  
 D) T Helper and T cytotoxic cells



44. A 53-year-old male patient received bone marrow transplantation for leukemia. After three weeks of transplantation, the patient developed acute graft versus host disease. Which is of these are implicated to cause graft versus host disease?
- A) Donor B lymphocytes                      B) Donor Monocytes  
C) Donor T lymphocytes                      D) Recipient Macrophages
45. Pedigree analysis is a flow chart depicting a family tree. It helps to identify members of a family affected by a genetic trait. In a pedigree chart, what is the other term used for the index case?
- A) Carrier    B) Propositus  
C) Diseased    D) Heterozygote
46. Which of the following null phenotypes for the common antigens in the corresponding blood group system when inherited lead to a resistance to the malaria parasite, *Plasmodium vivax*?
- A) Bombay phenotype                      B) Jk (a-b-) phenotype  
C) Fy (a-b-) phenotype                      D) Le (a-b-) phenotype
47. A request is received in the blood centre for 2 units of blood for a five-year-old thalassemia major patient on regular transfusion. On testing, the antibody screen and identification panel are found to be positive. The patient specimen is retested with antibody panel cells that have been treated with Dithiothreitol. The antibody no longer reacts against cells in the antibody panel. Which of the following antibodies is most consistent with these results?
- A) Anti D    B) Anti K  
C) Anti Fy<sup>a</sup>    D) Anti Jk<sup>b</sup>
48. Which of the following ethical principles emphasizes the concept of 'seeking the well-being of each patient'?
- A) Justice    B) Beneficence  
C) Autonomy    D) Non-Maleficence
49. Which of the following characterizes the anti-A found in group O individuals?
- A) Formed because of A antigen exposure in the content of red cell exposure (during transfusion or pregnancy)  
B) IgM and IgG isotypes are present  
C) Requires the addition of antihuman globulin to agglutinate  
D) Inactive at 37°C





57. Consider the following pairs

<b>Transfusion reaction</b>	<b>Estimated risk</b>
a. Red cell alloimmunization	1. 1 in 14,000 to 1 in 19,000
b. Hemolytic reaction	2. 1 in 2-3 million
c. Transfusion to wrong recipient	3. 1 in 6000
d. HIV	4. 1 in 100

Which of the pairs given above is/are correctly matched?

- A) a-1, b-2, c-3, d-4      B) a-3, b-4, c-2, d-1  
C) a-4, b-3, c-1, d-2      D) a-2, b-1, c-4, d-3

58. Consider the following groups regarding Human Platelet Alloantigens

<b>Platelet antigens</b>	<b>Glycoprotein</b>
a. HPA-1a	1. GPIa
b. HPA-2a	2. GPIIb
c. HPA-3a	3. CD 109
d. HPA-15a	4. GPIIIa

Which of the pairs given above is/are correctly matched?

- A) a-4, b-1, c-2, d-3      B) a-2, b-3, c-4, d-1  
C) a-1, b-2, c-3, d-4      D) a-3, b-4, c-1, d-2

59. Type of red cells use for demonstrating the Anti-I in patients' serum.

- A) Adult cells with i antigen  
B) Cord blood cells  
C) Post-menopausal women's red cells  
D) Bombay blood group donor's red cells

60. The null Ko RBC can be artificially prepared by which of the following treatments?

- A) Ficin and DTT  
B) Ficin and glycine-acid-EDTA  
C) DTT and glycine-acid-EDTA  
D) Glycine-acid-EDTA and sialidase

61. The rationale for deglycerolizing frozen packed red cells with extensive washing is

- A) Glycerol can cause anaphylaxis  
B) Glycerol can cause thrombocytopenia  
C) Glycerol can cause hemolysis  
D) Glycerol is toxic to kidney



67. Which if the following donor reactions are classified as Category A1 as per Haemovigilance program of India
- Haematoma
  - Arterial Puncture
  - Delayed bleeding
  - Nerve Injury
- A) All the above                      B) a, b and c  
C) b, c and d                         D) a, c and d
68. Which of the following statement is/are correct about FORS blood group system?
- The system belongs to protein blood group system
  - The system harbours a single low prevalence antigen
  - The antigen bears resemblance to A antigen
  - The anti-FORS1 antibodies may cause haemolysis in vitro
- A) a, b, c and d                      B) b, c, and d  
C) a and c                             D) a and b
69. All of the following are correct about Autologous donation
- Minimum haemoglobin required for autologous donation is 11 g/dl.
  - Collection should be at least 72 hours before anticipated surgery or transfusion.
  - Unstable angina is not a contraindication to autologous donation.
  - The most appropriate candidates are alloimmunised donors for whom compatible blood is hard to collect.
- A) a, b, c and d                      B) b, c, and d  
C) a and c                             D) a, b, and d
70. B Rh D positive blood unit was issued for a patient having haemoglobin of 5 g/dl. Before starting the transfusion, the resident doctor observed that the historic blood group of the patient is A Rh D positive. Further checks revealed that a wrong blood unit has been issued. The resident doctor returned the blood unit and reported the incident to the blood centre. This is an example of
- A) Adverse event                      B) Adverse reaction  
C) Near miss event                    D) Adverse incident

71. Which one of the following properties of antibodies is dependent on the structure of the heavy chain constant region?
- Ability to cross the placenta
  - Isotype
  - Ability to fix complement
  - Affinity for antigen
- A) a, b, and c                      B) b and c  
C) a, c, and d                      D) All the above
72. Which of the following blood components need to be crossmatched with patient's serum sample?
- Apheresis platelet product containing 3 ml of red cells
  - Granulocyte product collected by Apheresis
  - Granulocyte product collected by centrifugation of whole blood donation
  - Leukocyte reduced red blood cells
  - Pooled platelet product containing 1.5 ml of red cells
- A) a, b, c, d and e                      B) a, b, c, and e  
C) b, c, d and e                      D) a, b, c and d
73. Which of the following statements are CORRECT about Cold agglutinin syndrome?
- The acute form of disease is secondary to *Mycoplasma pneumoniae*.
  - The autoantibody specificity is most often anti-P.
  - Complement is the only protein detected on the red cells.
  - IgM cold reactive auto-agglutinins have a titre of  $\geq 1000$  when tested at 4°C.
- A) All the above                      B) a and b  
C) b only                      D) a, c, and d
74. Which of the following are the non-immune causes of platelet refractoriness?
- Fever
  - Immune thrombocytopenia
  - Disseminated intravascular coagulation.
  - Thrombotic microangiopathy
- A) a and b                      B) a, c, and d  
C) All the above                      D) b only

75. A 10-year-old thalassemic female patient comes to the blood centre for regular transfusion. The resident noted that the patient experienced severe allergic reactions during the last two transfusions. Which type of red cell should be transfused to the patient now?
- A) Packed red blood cells
  - B) Washed red blood cells
  - C) Leucoreduced red blood cells
  - D) Buffy coat reduced packed red blood cells
76. What is the minimum number of CD34+ cells required to ensure timely engraftment of hematopoietic progenitor cells?
- A)  $2 \times 10^3$  CD34+ cells/kg
  - B)  $2 \times 10^4$  CD34+ cells/kg
  - C)  $2 \times 10^5$  CD34+ cells/kg
  - D)  $2 \times 10^6$  CD34+ cells/kg
77. Probable causes of negative antibody screen and incompatible antiglobulin crossmatch are
- a. Donor red cells have positive direct antiglobulin result.
  - b. Antigen reacts with the cell having strongest expression of a particular antigen.
  - c. Passively acquired anti-A or anti-B
  - d. Antibodies demonstrating dosage and donor cells are from heterozygotes.
- A) a, b, c, and d
  - B) a, b, and c
  - C) a and d
  - D) b, and d
78. The advantages of liquid storage of apheresis platelet in platelet additive solution (PAS) is/ are:
- a. Enhanced concurrent collection of plasma
  - b. Diminution of allergic reaction
  - c. Efficient application of pathogen reduction techniques
  - d. Reduction in bacterial contamination
- A) a, b, and c
  - B) b and d
  - C) a, c, and d
  - D) All the above

79. Which of the following blood components need to be cross matched with patient's serum sample?
- Apheresis platelet product containing 3 ml of red cells
  - Granulocyte product collected by Apheresis
  - Granulocyte product collected by centrifugation of whole blood donation
  - Leukocyte reduced red blood cells
  - Pooled platelet product containing 1.5 ml of red cells
- A) a, b, c, d and e                      B) a, b, c, and e  
C) b, c, d and e                         D) a, b, c, and d
80. Which of the following phenotypes are designated as weak B phenotypes?
- $B_3$
  - $B_x$
  - $B_m$
  - $B_y$
- A) a, b, and c                                B) All the above  
C) a, c, and d                                D) a, b, and d
81. Weak A phenotypes can be serologically differentiated using which of the following techniques?
- Forward grouping of A and H antigens with anti-A1, anti-A, B anti anti-H.
  - Adsorption elution tests with anti-A
  - Performing Indirect antiglobulin test.
  - Saliva studies
  - Molecular testing
- A) All the above                              B) a, b, and c  
C) a, b, d, and e                             D) b, c, d, and e
82. The immune system may undergo transient suppression due to transfusion leading to higher risk of an individual developing infections or cancer. Different constituents of cellular blood components are responsible for such immunomodulation related to transfusion. Which of the following are implicated in transfusion related immunomodulation?
- Allogeneic mononuclear cells
  - Soluble human leucocyte antigen peptides
  - Cytokines
  - CD 34 cells
- A) All the above                              B) a, b, and c  
C) a, b, and d                                 D) b, c, and d







90. A Blood Centre In-charge has received a red cell identification (ID) panel from Southeast Asia. Which additional red cell antigen will be present on red cells in this ID panel?

- A) Lu antigen
- B) Mur antigen
- C) S antigen
- D) Le<sup>a</sup> antigen

91. Consider the following groups

ABO blood group	Substances in saliva
a. O	1. A, B, H
b. A	2. B, H
c. B	3. A, H
d. AB	4. H

Which of the pairs given above is/are correctly matched?

- A) a-3, b-2, c-4, d-1
- B) a-4, b-3, c-2, d-1
- C) a-1, b-4, c-3, d-2
- D) a-4, b-1, c-2, d-3

92. Consider the following groups

Blood component	Shelf life
a. RBCs irradiated	1. 24 hours
b. Frozen RBCs	2. 21 days
c. RBC deglycerolized	3. Original or 28 days from irradiation
d. RBCs CP2D	4. 10 years

Which of the pairs given above is/are correctly matched?

- A) a-2, b-4, c-1, d-3
- B) a-1, b-3, c-4, d-2
- C) a-3, b-4, c-1, d-2
- D) a-3, b-1, c-2, d-4

(57) (A)

(20)

93. An antibody demonstrates weak reactivity at the AHG phase when using a tube method with no enhancement reagent and monospecific anti-IgG AHG reagent. When repeating the test, which of the following actions may increase the strength of positive reaction.

- A) Adding enhancement reagent, such as LISS or PEG
- B) Decreasing the incubation time from 30 minutes to 10 minutes
- C) Employing pre-warming technique
- D) Decreasing the incubation temperature to 18°C

94. Which of the following is an indication for therapeutic phlebotomy treatment?

- A) Polycythaemia vera
- B) Psoriasis
- C) Sarcoidosis
- D) Amyloidosis

95. Consider the following groups

**Chromosomal location**

- a. 6
- b. 22
- c. 9
- d. 19

**Blood group system**

- 1. ABO
- 2. H
- 3. Rh associated glycoprotein
- 4. P

Which of the pairs given above is/are correctly matched?

- A) a-1, b-2, c-3, d-4
- B) a-3, b-4, c-1, d-2
- C) a-3, b-1, c-4, d-2
- D) a-4, b-2, c-1, d-3

96. Consider the following groups regarding therapeutic plasma exchange.

**Indication**

- a. Guillain-Barre syndrome
- b. Severe Cryoglobulinemia
- c. Coagulation factor inhibitors
- d. Systemic Amyloidosis

**Category as per AFSA guidelines**

- 1. Category IV
- 2. Category III
- 3. Category II
- 4. Category I

Which of the pairs given above is/are correctly matched?

- A) a-1, b-2, c-3, d-4
- B) a-4, b-3, c-2, d-1
- C) a-3, b-1, c-4, d-3
- D) a-2, b-4, c-1, d-2

97. Consider the following groups

Product	Indication
a. Factor VIII	1. Haemophilia B
b. Factor IX	2. Fibrinogen replacement
c. Factor VIIa	3. Haemophilia A
d. Cryoprecipitate	4. Inhibitors of haemophilia A and B

Which of the pairs given above is/are correctly matched?

- A) a-1, b-2, c-3, d-4      B) a-3, b-4, c-1, d-2  
C) a-3, b-1, c-4, d-2      D) a-2, b-3, c-1, d-4

98. Which of the following statements are True regarding Fetal and neonatal alloimmune thrombocytopenia?

- a. Commonly caused by HPA-1a  
b. Platelet antibody affects the second pregnancy.  
c. HPA selected platelet transfusion are first line of treatment.  
d. The reported incidence is 30 in 1000 pregnancies.

- A) a, b, c      B) a and c  
C) a, c and d      D) b, c and d

99. The term used for inflammatory programmed cell death is

- A) Activation induced cell death      B) Pyroptosis  
C) Cytolysis      D) Apoptosis

100. Consider the following pairs

Stage of cell cycle	Description
a. $G_0$	1. Cell produce RNA and synthesize protein
b. $G_1$	2. The cell continues to produce new protein
c. $G_2$	3. Temporary resting period, no cell division
d. M	4. Cell division occurs

Which of the pairs given above is/are correctly matched?

- A) a-3, b-1, c-2, d-4      B) a-4, b-2, c-3, d-1  
C) a-2, b-1, c-4, d-3      D) a-1, b-3, c-1, d-4

# ROUGH WORK

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