



# JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION

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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/2023/78**

**Dated: 09.11.2023**

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 Microbiology, Radio Therapy, Child Psychologist (Ancillary Staff) and Pharmacology in Health and Medical Education Department, held on 03.11.2023**, are hereby notified for seeking objections from candidates.

## Provisional Answer Key Assistant Professor(Microbiology)

Test Booklet Question No. (Series A)	
Q1	D
Q2	B
Q3	C
Q4	C
Q5	D
Q6	B
Q7	C
Q8	B
Q9	A
Q10	C
Q11	C
Q12	C
Q13	D

Test Booklet Question No. (Series A)	
Q14	A
Q15	B
Q16	A
Q17	D
Q18	B
Q19	A
Q20	D
Q21	D
Q22	B
Q23	C
Q24	C
Q25	B
Q26	B

Test Booklet Question No. (Series A)	
Q27	B
Q28	A
Q29	A
Q30	C
Q31	D
Q32	A
Q33	A
Q34	D
Q35	B
Q36	A
Q37	D
Q38	B
Q39	B

Test Booklet Question No. (Series A)	
Q40	A
Q41	D
Q42	B
Q43	A
Q44	B
Q45	D
Q46	C
Q47	A
Q48	C
Q49	D
Q50	B
Q51	C
Q52	A
Q53	C
Q54	D
Q55	A
Q56	C
Q57	B
Q58	C
Q59	A
Q60	A

Test Booklet Question No. (Series A)	
Q61	C
Q62	C
Q63	C
Q64	B
Q65	B
Q66	B
Q67	C
Q68	D
Q69	A
Q70	A
Q71	B
Q72	A
Q73	D
Q74	C
Q75	A
Q76	B
Q77	D
Q78	D
Q79	A
Q80	C
Q81	D

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



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

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

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

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



**Provisional Answer Key Assistant Professor (Child Psychologist)**

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

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

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



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

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

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

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

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 10.11.2023 to 13.11.2023. **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 13.11.2023 (Monday), 05.00 pm.**

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

09.11.2023  
**(G.L Sharma), JKAS**  
Additional Secretary

J&K Public Service Commission

Dated: 09.11.2023

No. PSC/Ex-Secy/2023/63

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 Microbiology, Radio Therapy, Child Psychologist (Ancillary Staff) and Pharmacology, 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. **215197**

**Test Booklet Series**

**TEST BOOKLET  
MICROBIOLOGY  
Written Test - 2023  
(70)**

**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.

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

**(70) (A)/2023**

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



STATS

(70) (A)

(2)

1. A 65-year-old man develops dementia, progressive over several months, along with ataxia and somnolence. An electroencephalographic pattern shows paroxysms with high voltages and slow waves, suggestive of Creutzfeldt- Jakob disease. This disease is caused by which of the following agents?
 

A) Plasmid	B) Virus
C) Bacterium	D) Prion
  
2. Chloramphenicol, an antibiotic that inhibits bacterial protein synthesis, will also affect which of the following eukaryotic organelles?
  - A) Nuclear membrane
  - B) Mitochondria
  - C) Endoplasmic reticulum
  - D) Golgi apparatus
  
3. An unculturable gram-positive microorganism has been visualized in tissue specimens obtained from patients with a previously undescribed disease. Which of the following techniques would be most useful in identifying this organism?
  - A) Serology
  - B) Multilocus enzyme electrophoresis
  - C) PCR amplification and sequencing of rDNA
  - D) Pulsed-field gel electrophoresis
  
4. Macrophage-like cells serve different functions in different tissues, match the following
 

(a) Microglial cells	1. Kidney
(b) Alveolar macrophages	2. Connective tissues
(c) Mesangial cells	3. Lung
(d) Kupffer cells	4. Brain
(e) Histiocytes	5. Liver

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

5. The ability to use compounds and ions other than oxygen as terminal oxidants in respiration is a widespread microbial trait. This capacity is called
- A) Photosynthesis
  - B) Fermentation
  - C) Substrate phosphorylation
  - D) Anaerobic respiration
6. Which genetic mechanism increases the number of different antibody molecules during an immune response without increasing the diversity of the pool of antigen receptor specificities?
- A) V gene segment recombination
  - B) Class switching
  - C) Somatic hypermutation
  - D) Gene duplication, ie, multiple V, D, and J gene segments
7. A 2-year-old child with recurrent bacterial infections causing otitis media and pneumonia is most likely deficient in
- A) TAP-1/TAP-2 molecules
  - B) Phagocytes
  - C) B cells
  - D) T cells
8. A 55-year-old man presents with gradually increasing weight loss, abdominal pain, diarrhea, and arthropathy. During the evaluation process, a small bowel biopsy is done. After processing, examination of the specimen by light microscopy reveals periodic acid-Schiff (PAS)-positive inclusions in the bowel wall. Which of the following tests could be done to confirm the diagnosis of Whipple's disease, caused by *Tropheryma whippelii*?
- A) Culture on agar media
  - B) PCR
  - C) Co-cultivation with *Escherichia coli*
  - D) Direct fluorescent antibody test

9. Which one of the following statements about antimicrobial resistance of enterococci is CORRECT?
- A) Vancomycin-resistant enterococci are common in Europe, India and the United States.
  - B) Cephalosporins are highly active against enterococci.
  - C) Enterococci are susceptible to sulfamethoxazole- trimethoprim in vivo.
  - D) Resistance to the streptogramins (quinupristin- dalfopristin) has not occurred.
10. All of the following are the general characteristics of Mycoplasma spp, EXCEPT?
- A) It can grow on cell-free media containing lipoprotein and sterol
  - B) They are pleomorphic and very small in size
  - C) They are best identified using a gram staining technique
  - D) Colonies appear as a fried egg in shape in the media
11. All are the important general characteristics of enteric bacteria, EXCEPT?
- A) Aerobic and facultatively anaerobic
  - B) Grow in media with bile salts
  - C) Do not reduce nitrates
  - D) Ferment glucose
12. What is the most common mechanism responsible for antibiotic resistance seen in M. tuberculosis?
- A) Mutations in DNA gyrase gene
  - B) Alterations in beta-lactamase
  - C) Mutations in the catalase-peroxidase gene
  - D) Alterations in RNA polymerase
13. Which of the following test is used for the detection of genetic material of TB bacteria in sputum sample?
- A) Interferon-gamma assays IGRAs
  - B) Tuberculin skin test
  - C) Venereal Disease Research Laboratory test (VDRL)
  - D) Nucleic acid amplification tests (NAATs)

14. Which of the following statements are NOT the distinguishing features of the family Chlamydiaceae?
- A) They are seen on Gram stain
  - B) They are obligate intracellular bacteria
  - C) They cannot make ATP
  - D) They consist of two forms elementary and reticulate body
15. Which of the following is not the mosquito-borne viral disease?
- A) Dengue
  - B) Lassa fever
  - C) Yellow fever
  - D) Japanese B encephalitis
16. Which of the following is a vaccine-preventable vector-borne viral disease?
- A) Yellow fever
  - B) Malaria
  - C) Chikungunya
  - D) Lyme disease
17. An 11 years old girl visited a clinic with white lesions around the mouth and tongue, the girl developed fever, swelling, and pain around the infected area for 2 days.
- A swab specimen was taken and microscopic examination showed budding spherical cells of fungi with hyphae. After 24 hours of a culture of the specimen, smooth cream-colored colonies were observed.
- Name the most possible pathogen responsible for the infection?
- A) *Rhizopus oryzae*
  - B) *Aspergillus fumigatus*
  - C) *Pneumocystis jiroveci*
  - D) *Candida albicans*
18. All of the following are the characteristics of *Cryptococcus neoformans*, EXCEPT?
- A) It is a capsulated yeast
  - B) Transmission is through thorn prick
  - C) Produces urease
  - D) Produces melanin as important virulence factor

19. 'Aflatoxin' is usually present in moldy foods such as nuts and corn which can be poisonous for animals as well as humans.

Name the possible pathogen which produces this toxin?

- A) *Aspergillus flavus*
- B) *Clostridium botulinum*
- C) *Bacillus anthracis*
- D) *Aspergillus niger*

20. Which of the following fungus is not the type of fungi associated with emerging opportunistic fungal infections in AIDS patients?

- A) *Pneumocystis fironecii*
- B) *Penicillium marneffeii*
- C) *Cryptococcus neoformans*
- D) *Rhizopus arrhizus*

21. Which of the following statements is not correct about *Aeromonas* spp and *Plesiomonas* spp?

- A) Both are oxidase-positive
- B) They can be found in freshwater and soil
- C) They are gram-negative rods
- D) Grow well on TCBS (thiosulphate citrate bile salt) media

22. *Campylobacter jejuni* is one of the most common causes of food poisoning, it has also been associated with a post diarrheal syndrome that is known as.....?

- A) Toxic shock syndrome
- B) Guillain-Barre syndrome
- C) Short bowel syndrome
- D) Rett syndrome

23. Which technique is used to separate DNA, RNA, or proteins based on size and charge?

- A) Colony counting
- B) Flow cytometry
- C) Gel electrophoresis
- D) PCR amplification

24. For which of the following distribution mean and variance are equal?
- A) Normal distribution
  - B) Uniform distribution
  - C) Poisson distribution
  - D) Logistic distribution
25. For which of the following distribution Mean, median and mode are equal?
- A) Binomial distribution
  - B) Normal distribution
  - C) Negative Binomial distribution
  - D) F distribution
26. Non-parametric correlation is called as:
- A) Karl Pearson's correlation
  - B) Spearman's correlation
  - C) Rao Blackwell correlation
  - D) Spurious correlation
27. Which statistical test can be used to compare mean CD4 count of 400 HIV stage 2 patients and mean CD4 count of 300 HIV stage 3 patients?
- A) Paired t-test
  - B) Unpaired t-test
  - C) ANOVA
  - D) Kruskal-Wallis test
28. What is the type I error in hypothesis testing?
- A) Reject null hypothesis ( $H_0$ ) when null hypothesis ( $H_0$ ) is true
  - B) Accept null hypothesis ( $H_0$ ) when alternate hypothesis ( $H_1$ ) is true
  - C) Fail to reject null hypothesis when it is false
  - D) Reject null hypothesis ( $H_0$ ) when null hypothesis ( $H_0$ ) is false

29. Group 3 metallo- $\beta$ -lactamase are inhibited by?
- A) EDTA
  - B) Clavulanic acid
  - C) 2<sup>nd</sup> generation cephalosporins
  - D) Imipenem
30. Organisms that may cause severe human disease and present a serious hazard to laboratory workers and may cause threat to community but effective prophylaxis or treatment is available comes under which hazard group?
- A) Group 1
  - B) Group 2
  - C) Group 3
  - D) Group 4
31. Chagas disease is caused by?
- A) *Leishmania donovani*
  - B) *Trypanosoma brucei*
  - C) *Entamoeba histolytica*
  - D) *Trypanosoma cruzi*
32. Acid fast bacilli cause
- A) Tuberculosis
  - B) Histoplasmosis
  - C) Typhoid
  - D) Malaria
33. Melioidosis is caused by
- A) *Burkholderia pseudomallei*
  - B) *Burkholderia cenocepacia*
  - C) *Burkholderia mallei*
  - D) *Burkholderia cepacia*.



34. Community - acquired atypical pneumonia is caused by?
- A) *Klebsiella pneumoniae*
  - B) *Streptococcus pneumoniae*
  - C) *Staphylococcus aureus*
  - D) *Chlamydia pneumoniae*
35. Dematiaceous fungi have the following features:
- A) Microconidia are seen
  - B) Have pigmented cell walls
  - C) Have human to human transmission
  - D) Fluconazole is the drug of choice.
36. *Enterobius vermicularis* is also known as?
- A) Pin worm
  - B) Hook worm
  - C) Round worm
  - D) Tape worm
37. Q fever is caused by?
- A) *R. prowazekii*
  - B) *Bartonella bacilliformis*
  - C) *R. typhi*
  - D) *Coxiella burnetii*
38. Imagine that you are planning an experiment to analyse the gene expression in the blood of individuals who have received a new medication. All the genes in the genome should have their expression levels measured, and you might later use the information to find novel transcripts (like miRNAs). Which method can be used?
- A) Real-time PCR
  - B) RNA-seq
  - C) Microarray analysis
  - D) ChIP-seq

39. Which of the following bacterial species produces a toxin that can be used to inhibit protein synthesis in eukaryotic cells?
- A) *Vibrio cholera*
  - B) *Corynebacterium diphtheria*
  - C) *Mycobacterium tuberculosis*
  - D) *Bordetella pertussis*
40. Pimelic acid is required for the growth of:
- A) *Corynebacterium diphtheria*
  - B) *Streptococcus hemolyticus*
  - C) *Staphylococcus aureus*
  - D) *Brucella abortus*
41. Which of the following is not a constituent of peptidoglycan:
- A) Polymers of alternating units of N-acetyl glucose-amine and N-acetyl muramic acid.
  - B) Tetra peptides attached to N-acetyl muramic acids.
  - C) Pentaglycine inter-bridge between tetra peptides of two adjacent NAG-NAM backbone.
  - D) Lipopolysaccharide
42. Which of the following features distinguishes *Streptococcus pneumoniae* from *Streptococcus viridans* and *Streptococcus faecalis*?
- A) Negative Esculin-bile test
  - B) Positive Optochin sensitivity test
  - C) High heat resistance
  - D) Growth on MacConkey's bile salt agar
43. Typing of bacteria for epidemiological purposes can be done by the following molecular methods EXCEPT
- A) Plasmid analysis
  - B) Multilocus sequence typing
  - C) Pulsed field gel electrophoresis
  - D) Ouchterlony double immunodiffusion

44. Group A Streptococci are the most common bacterial cause of pharyngitis in young children. The most important cell component involved in adherence of this bacteria to fibronectin, which covers the epithelial surface of the nasopharynx is:
- A) Capsule
  - B) Lipoteichoic acid
  - C) Flagella
  - D) O-antigen
45. Which of the following is most resistant to destruction by chemicals and heat?
- A) Spores of *Aspergillus*
  - B) *Mycobacterium tuberculosis*
  - C) *Escherichia coli*
  - D) Spores of *Bacillus anthracis*
46. Which of the following is not true about DNA sequencing methods?
- A) Purified fragments of DNA cut from plasmid/phage clones are amplified by polymerase chain reaction (PCR).
  - B) Clones of DNA fragments are denatured to single strands, and one of the strands is hybridized to an oligonucleotide primer
  - C) Taq polymerase is quite heat sensitive
  - D) New strands of DNA are synthesized from the end of the primer
47. Which of the following constitute majority of all bacteria in the gut?
- A) Bacteriodes
  - B) Clostridium
  - C) Fusobacterium
  - D) Eubacterium
48. Which microorganism(s) among the following perform photosynthesis by utilizing light?
- A) Viruses
  - B) Anaerobic bacteria
  - C) Cyanobacteria
  - D) Fungi

49. Which of the following gases are produced in large amounts during sludge digestion?
- A) Carbon-dioxide
  - B) Hydrogen
  - C) Nitrogen
  - D) Methane
50. A virus can only infect a person in the presence of a secondary hepatitis virus?
- A) Hepatitis A
  - B) Hepatitis D
  - C) Hepatitis C
  - D) Hepatitis B
51. The cell wall of gram-positive bacteria may contribute to the development of septic shock. Identify the component which is most associated with the induction of septic shock?
- A) Capsular protein
  - B) Endotoxin
  - C) Peptidoglycan
  - D) Phospholipid
52. Many antiviral drugs act by inhibition of a viral DNA polymerase enzyme. Select the virus for which this class of drugs would be effective.
- A) Cytomegalovirus
  - B) Influenza
  - C) Measles
  - D) Rabies
53. Select the culture medium that would be most appropriate to isolate *Haemophilus influenzae*.
- A) Blood agar
  - B) MacConkey agar
  - C) Chocolate agar
  - D) XLD agar

54. Triple Toxoid vaccine will give protection against.
- A) Tetanus, whooping cough and Tuberculosis
  - B) Diphtheria, tetanus and rabies
  - C) Whooping, cough, cancer and T.B
  - D) Whooping cough, tetanus and Diphtheria
55. Chloramphenicol was initially obtained from: -
- A) *Streptomyces venezuelae*
  - B) *Streptomyces pyrogens*
  - C) *Streptomyces griseus*
  - D) *Streptomyces antibioticus*
56. Bacilli Calmette Guerin (BCG) contains the avirulent strains of.
- A) Human Tubercle bacilli
  - B) Avian Tubercle bacilli
  - C) Bovine Tubercle bacilli
  - D) A typical Mycobacterium
57. A doctor suffers a needle prick injury while performing venepuncture on a patient. He is anxious that he may have contracted an infection. Assuming that the patient is infected, transmission is most likely for:
- A) Dengue fever
  - B) Hepatitis B
  - C) Hepatitis C
  - D) Human immunodeficiency virus (HIV)
58. Dominant effector cells at the later stages of innate immune response are
- A) Neutrophil
  - B) B lymphocyte
  - C) Macrophage
  - D) T lymphocyte

59. Patients without a spleen are most susceptible to infection by the following organism
- A) *Streptococcus pneumoniae*
  - B) *Haemophilus influenzae*
  - C) *Pneumocystis jiroveci*
  - D) *Klebsiella pneumoniae*
60. In an experiment, the antigen induces an immediate (type I) hypersensitivity response. Cytokines are secreted that are observed to stimulate IgE production by B cells, promote mast cell growth and recruit and activate eosinophils in this response. Which of the following cells is most likely to be the source of these cytokines?
- A) CD4+ lymphocytes
  - B) Dendritic cells
  - C) Macrophages
  - D) Natural killer cells
61. A 16-year-old boy presents with fever, sore throat, and cervical lymphadenopathy. Lab investigations showed a peripheral blood smear with "atypical lymphocytes" and deranged liver function tests over two weeks. Physical examination revealed splenomegaly. Which of these cells is likely to eliminate the infection?
- A) Immunoglobulin-secreting plasma cells
  - B) CD 4+ T cells
  - C) CD 8+ T cells
  - D) Epithelioid macrophages
62. The most common cause of nongonococcal urethritis in males is
- A) *Herpes simplex virus*
  - B) *Treponema pallidum*
  - C) *Chlamydia trachomatis*
  - D) *Gardnerella sp.*
63. Which effector cells are responsible for defense against extracellular bacteria and fungi?
- A) T<sub>H</sub>1 cells
  - B) T<sub>H</sub>2 cells
  - C) T<sub>H</sub>17 cells
  - D) Treg cells

64. Katayama fever is caused by :
- A) *Clostridium perfringes*
  - B) *Schistosoma Spp.*
  - C) *Borrelia burgdorferi*
  - D) *Trypanosoma cruzi*
65. The signature cytokine released by T<sub>H</sub>1 cells responsible for defense against intracellular microbes is
- A) IL-1
  - B) IFN- $\gamma$
  - C) IL-6
  - D) IL-10
66. Which of the following is not responsible for the microbicidal effect of macrophages?
- A) Reactive oxygen species
  - B) TGF- $\beta$
  - C) Nitric oxide
  - D) Increased lysosomal enzymes
67. Which of the following is the mechanism of action through which the bacteria primarily acquire resistance to the penicillin?
- A) Efflux of drug
  - B) Bypass of metabolic pathways
  - C) Antibiotic Hydrolysis
  - D) Drug Uptake Limitation
68. Bacterial ribosome typically consists of two subunits, the larger (50S) subunit consists of
- A) Single r-RNA molecule (16S) and 21 polypeptide
  - B) Two r-RNA molecules (30S and 50S) plus 31 different polypeptides
  - C) Single r-RNA molecule (18S) and 21 polypeptide
  - D) Two r-RNA molecules (23S and 5S) and 31 different polypeptides

69. A patient of RHD developed infective endocarditis after dental extraction. Most likely organism causing this is?
- A) Streptococcus viridans
  - B) Streptococcus pneumoniae
  - C) Streptococcus pyogenes
  - D) S. aureus
70. Which of the following statements can describe the tetanus toxin?
- A) It inhibits the release of inhibitory transmitters in synapses
  - B) It causes hyperstimulation of intestinal adenylate cyclase
  - C) It does not cause muscle spasm
  - D) Toxin Spreads centrifugally
71. A diabetic patient developed cellulitis due to S. aureus which was found to be methicillin resistant on the antibiotic sensitivity testing. All the following antibiotics will be appropriate EXCEPT:
- A) Vancomycin
  - B) Imipenem
  - C) Teicoplanin
  - D) Linezolid
72. Staphylococcus aureus is different from Staphylococcus epidermidis by
- A) It is coagulase positive
  - B) Forms white colonies
  - C) A common cause of UTI
  - D) Causes endocarditis of prosthetic valve
73. A cook prepares sandwiches for 10 people going for picnic. Eight of ten people develop severe gastroenteritis within 4-6 hours of consumption of the sandwiches. It is likely that on investigations the cook is found to be carrier of
- A) Salmonella Typhi
  - B) Vibrio cholera
  - C) Entamoeba histolytica
  - D) Staphylococcus aureus.



74. Bacterial spores can be best demonstrated by
- A) Gram staining
  - B) Negative staining
  - C) Acid fast staining
  - D) Albert staining
75. In which of the phase of bacterial growth curve bacteria reach their maximum size ?
- A) Lag phase
  - B) Log phase
  - C) Stationary phase
  - D) Decline phase
76. Which of the following is most resistant to sterilization?
- A) Tubercle bacilli
  - B) Prions
  - C) Viruses
  - D) Bacterial spores
77. Which of the following is not true about ethylene oxide?
- A) Is widely used gaseous chemical sterilant
  - B) Has sporicidal activity
  - C) Has high penetration power
  - D) Less flammable
78. The colonies produced by *Pseudomonas* on Nutrient Agar medium are
- A) Purple colored
  - B) Pink colored
  - C) Pale colored
  - D) Green colored
79. Mechanism of direct transfer of free DNA is called
- A) Transformation
  - B) Conjugation
  - C) Transduction
  - D) Transposition

80. Recombinant DNA technology does not involve
- A) Use of restriction enzymes
  - B) Southern blotting
  - C) Northern blotting
  - D) Cloning
81. All the following are exotoxins except
- A) Anthrax toxin
  - B) Botulinum toxins
  - C) Diphtheria toxin
  - D) Lipopolysaccharides
82. All of the following are RNA viruses except
- A) Corona virus
  - B) Hepatitis A virus
  - C) Polio virus
  - D) Human adenovirus
83. Each of the following statements concerning *Giardia lamblia* is correct except:
- A) *G. lamblia* has both a trophozoite and cyst stage in its life cycle
  - B) *G. lamblia* is transmitted by the fecal-oral route from both human and animal sources
  - C) *G. lamblia* causes hemolytic anemia
  - D) *G. lamblia* can be diagnosed by the string test
84. Agar concentration that is required for preparing Nutrient Agar is
- A) 6%
  - B) 2%
  - C) 0.25%
  - D) 0.5%
85. The region where bacterial genome resides is termed as:
- A) Nucleus
  - B) Ribosome free region
  - C) Cytoplasm
  - D) Nucleoid

86. Example of Anaerobic medium is
- A) Nutrient Agar
  - B) Robertson cooked -meat medium
  - C) Nutrient broth
  - D) Mac-Conkey's Agar
87. Germ tube test is suggestive of:
- A) *Candida Cruzei*
  - B) *Candida glabrata*
  - C) *Candida albicans*
  - D) *Cryptococcus Neoformans*
88. Holding temperature and time required for sterilization in Hot air oven is
- A) 200°C for 10 minutes
  - B) 100°C for 3 hours
  - C) 160°C for 2 hours
  - D) 400°C for 30 minutes
89. Gram-positive cocci arranged in clusters are
- A) Streptococci
  - B) Staphylococcus
  - C) Micrococcus
  - D) Enterococcus
90. Following are Gram negative on staining except
- A) *Escherichia coli*
  - B) *Corynebacterium*
  - C) *Klebsiella pneumoniae*
  - D) *Neisseria gonorrhoeae*

91. The motile bacteria among the following is
- A) *S. typhi*
  - B) *K. pneumoniae*
  - C) *B. anthracis*
  - D) *Shigella spp*
92. Coagulase test is done for identification of which organism?
- A) *Corynebacterium spp*
  - B) *Enterococcus spp*
  - C) *Neisseria gonorrhoeae*
  - D) *Staphylococcus aureus*
93. Influenza virus belongs to
- A) DS-DNA viruses
  - B) SS-RNA viruses
  - C) SS-DNA Viruses
  - D) DS-RNA viruses
94. Triple Sugar Iron (TSI) agar contains all of the following-EXCEPT
- A) Sucrose
  - B) Glucose
  - C) Lactose
  - D) Maltose
95. All of the following are diffusion methods for antimicrobial susceptibility testing except
- A) Broth dilution method
  - B) Stokes
  - C) E test
  - D) Kirby Bauer
96. Glassware is sterilized by
- A) Autoclaving
  - B) Hot air over
  - C) Incineration
  - D) None of these

97. Culture medium used for fungus is
- A) Sabouraud's dextrose agar
  - B) Nutrient agar
  - C) Nutrient broth
  - D) Minimal agar medium
98. COVID-19 is an infectious disease caused by SARS-CoV-2, which is
- A) RNA virus
  - B) Bacteria
  - C) Fungus
  - D) DNA Virus
99. "Black fungus" disease associated with COVID-19 is a misnomer. It is actually referring to ?
- A) Aspergillosis
  - B) Mucormycosis
  - C) Candidiasis
  - D) Histoplasmosis
100. Hospital acquired Infection is defined as infection occurring after \_\_\_ hours of hospital admission
- A) 24
  - B) 48
  - C) 72
  - D) 120
-

# ROUGH WORK

# ROUGH WORK

AL

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

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**Test Booklet Series**

**TEST BOOKLET  
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**A**

**Written Test - 2023**

**(80)**

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**(80) (A)/2023**

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



(80) (A)

(2)

1. Pair production is possible only with photons having energies;
  - A)  $\leq 1.02 \text{ MeV}$
  - B)  $>1.02 \text{ MeV}$
  - C)  $\geq 1.02 \text{ eV}$
  - D)  $<1.02 \text{ MeV}$
2. What is photodisintegration?
  - A) A high energy photon interacts with nucleus of an atom, totally disrupting the nucleus, with the emission of one or more nucleons
  - B) A high energy photon interacts with an outer shell electron, totally disrupting the atom, with the emission of one or more nucleons
  - C) A low energy photon interacts with nucleus of an atom, totally disrupting the nucleus, with the emission of one or more nucleons
  - D) A low energy photon interacts with an outer shell electron, totally disrupting the atom, with the emission of one or more nucleons
3. Orthovoltage X-ray machines operate at potentials between;
  - A) 50 - 100 kV
  - B) 100 - 150 kV
  - C) 150 and 500 kV
  - D)  $> 500 \text{ kV}$
4. Which among the following is not included in Leptons?
  - A) Electron
  - B) Proton
  - C) Muon
  - D) Tau
5. In LINAC, ion chamber is present between;
  - A) Primary collimator and Scattering foil
  - B) Primary collimator and Flattening filter
  - C) Scattering foil and Secondary collimator
  - D) Secondary collimator and Accessory mount

6. All naturally occurring radioactive elements have been grouped into;
- A) Uranium series
  - B) Actinium series
  - C) Thorium series
  - D) All of the above
7. The threshold energy that an incident electron must possess in order to first strip an electron from an atom is known as;
- A) Stripping electron energy
  - B) Bohr's energy
  - C) Critical absorption energy
  - D) Collision movement energy
8. 1 R is equal to;
- A)  $1.58 \times 10^{-4}$  C/kg of air
  - B)  $1.58 \times 10^{-4}$  C/g of air
  - C)  $2.58 \times 10^{-4}$  C/kg of air
  - D)  $2.58 \times 10^{-4}$  C/g of air
9. Which of the following is not commonly used for construction of Wedge filter?
- A) Brass
  - B) Lead
  - C) Tin
  - D) Steel
10. Half-life of Cs-137 is;
- A) 20 years
  - B) 20 days
  - C) 30 years
  - D) 30 days

11. X-ray tube potential can be determined by following methods except;
- A) Share gap method
  - B) Voltage divider
  - C) Phosphorescence method
  - D) Attenuation method
12. All of the following are thermoluminescence phosphors except;
- A) LiF
  - B) LiF<sub>4</sub>
  - C) CaF<sub>2</sub>
  - D) Li<sub>2</sub>B<sub>4</sub>O<sub>7</sub>
13. Percentage depth dose is;
- A)  $D_d / D_0 / 100\%$
  - B)  $D_0 / D_d / 100\%$
  - C)  $D_d / D_0 \times 100\%$
  - D)  $D_0 / D_d \times 100\%$
14. The optimal relationship between hinge angle and wedge angle is;
- A)  $\theta = 90^\circ - \emptyset$
  - B)  $\emptyset = 90^\circ - \theta/2$
  - C)  $\emptyset = 90^\circ - \theta$
  - D)  $\theta = 90^\circ - \emptyset/2$
15. The rate of energy loss with depth in water for clinical electron beams is approximately;
- A) 1 MeV/cm
  - B) 2 MeV/cm
  - C) 3 MeV/cm
  - D) 4 MeV/cm

16. Which of the following is not a system of implant dosimetry?
- A) Quimby system
  - B) Paterson - parker system
  - C) Manchester System
  - D) Memorial system
17. In Cobalt teletherapy, what holds true for the leakage dose rate from source housing with the beam in the "on" position?
- A) It shall not exceed 0.01% of the useful beam dose rate
  - B) It shall not exceed 0.1% of the useful beam dose rate
  - C) It shall not exceed 1% of the useful beam dose rate
  - D) None of the above
18. What is the commonly accepted overall accuracy in the coverage of intended target volume for SRT?
- A)  $\pm 0.1$  mm
  - B)  $\pm 0.3$  mm
  - C)  $\pm 0.5$  mm
  - D)  $\pm 1$  mm
19. Telomerase is a reverse transcriptase that includes the complementary sequence to;
- A) TTGAGG repeats
  - B) TGTAAT repeats
  - C) TTAGGG repeats
  - D) TTAAGG repeats
20. What is false about extrapolation number ( $n$ ) in mammalian survival curve?
- A) If  $n$  is small, the shoulder of curve is broad
  - B) If  $n$  is large, the shoulder of curve is broad
  - C) If  $n$  is small, the shoulder of curve is narrow.
  - D)  $\text{Log}_e n = D_q / D_0$

21. Mitomycin C (MMC) is a derivative of;
- A) Taxanes
  - B) Quinine
  - C) Epipodophylotoxins
  - D) Mitoxantrone
22. Which of the following is not a vascular disrupting agent?
- A) Bevacizumab
  - B) Hyperthermia
  - C) PDT
  - D) TNF
23. What is the half-life of Sm-145?
- A) 30 days
  - B) 340 days
  - C) 74.2 days
  - D) 30 years
24. Large single fraction radiation will produce which type of cell death?
- A) Necrosis
  - B) Autophagy
  - C) Apoptosis
  - D) Mitotic catastrophe
25. Which of the following drug acts on both G2M and G1 phase?
- A) Adriamycin
  - B) Capecitabine
  - C) Actinomycin D
  - D) Mitomycin C
26. Which of the following is correct?
- A) OER for X-ray is 2.5
  - B) OER for 5 MeV neutrons is 1.6
  - C) OER for  $\alpha$  rays is 1
  - D) OER for 10 MeV neutrons is 1.6

27. At dose of 2.5 to 5 Gy, death, if it occurs, is a result of radiation damage to;
- A) Cerebrovascular system
  - B) Hematopoietic system
  - C) Gastrointestinal system
  - D) Pulmonary system
28. Which is the most sensitive in-utero stage to the lethal effects of radiation?
- A) Preimplantation
  - B) Implantation
  - C) Organogenesis
  - D) Fetal period
29. Which of the following radiotracer is used as PET hypoxia probe?
- A) Cu-PTSM
  - B) FAZA
  - C) FDG
  - D) Galacto-RGD
30.  $TD_{50/5}$  is defined as;
- A) The tolerance dose for 5% complication in 50 years
  - B) The tolerance dose for 5% complication in 5 years
  - C) The tolerance dose for 50% complication in 50 years
  - D) The tolerance dose for 50% complication in 5 years
31. What dose of radiation is needed to compensate for accelerated repopulation in head and neck cancer about 4 weeks after initiation of fractionated radiotherapy?
- A) 0.4 Gy per day
  - B) 0.5 Gy per day
  - C) 0.6 Gy per day
  - D) 1 Gy per day

32. Isolated Limb Perfusion achieves regional drug concentration;
- A) 2-5 times higher than systemic administration of drug.
  - B) 5-10 times higher than systemic administration of drug.
  - C) 10-15 times higher than systemic administration of drug.
  - D) 15-25 times higher than systemic administration of drug.
33. Cell of origin in Merkel cell carcinoma is;
- A) Dermocutaneous support cell
  - B) Tactile neuroendocrine epithelial cell
  - C) Spindle cell
  - D) Actinic primordial cell
34. What is Clark level III in relation to skin cancer?
- A) Invasion of papillary dermis,
  - B) Filling papillary dermis compressing reticular dermis,
  - C) Invading reticular dermis
  - D) Invades subcutaneous tissues
35. Which of the following is not a constituent of Von Hippel-Lindau syndrome?
- A) Renal clear cell carcinoma
  - B) Pheochromocytoma,
  - C) Hemangiopericytoma
  - D) Renal cysts.
36. Which of the following is true for MR spectroscopy in high grade glioma?
- A) Tumors have high choline, necrosis have low choline
  - B) Tumors have low choline, necrosis have high choline
  - C) Tumors have decreased creatine and NAA.
  - D) Necrosis has decreased creatine, and NAA.



37. Which ICRU report introduced the concept of PRV(planning organ at risk volume)?
- A) ICRU report 89
  - B) ICRU report 62
  - C) ICRU report 50
  - D) ICRU report 38
38. Which arm was not a part of CODEL study for anaplastic gliomas?
- A) RT alone,
  - B) TMZ alone.
  - C) RT and adjuvant TMZ
  - D) RT and concurrent and adjuvant TMZ
39. Most common histopathology in primary CNS lymphoma is;
- A) Follicular lymphoma
  - B) DLBCL
  - C) Mantle cell lymphoma
  - D) None of the above
40. H3-K27 M mutations are commonly associated with;
- A) Primary CNS lymphoma
  - B) Diffuse intrinsic pontine glioma
  - C) Glioblastoma multiforme
  - D) Oligodendroglioma
41. Which of the following is true about DARS trial?
- A) The superior and middle constrictors were contoured as one structure.
  - B) The superior and middle constrictors were contoured as different structure.
  - C) The middle and inferior constrictors were contoured as one structure.
  - D) The inferior constrictors were not contoured as a structure in this trial.

42. RTOG 1016 trial is;
- A) Phase 3 trial of conventional concurrent chemoradiotherapy and adjuvant temozolamide in newly diagnosed gliomas.
  - B) Phase 3 trial of radiotherapy plus cetuximab vs chemoradiotherapy in HPV associated oropharyngeal cancer
  - C) Phase 2 study of bladder cancer for bladder preservation using RT and concurrent cisplatin
  - D) Phase 2 study of Larynx preservation using RT and concurrent cisplatin
43. High risk category in medulloblastoma does not include;\
- A) Age < 3 years
  - B) < 1.5 cm<sup>2</sup> residual
  - C) M+
  - D) Anaplasia
44. Most common benign intracranial tumor in adults is;
- A) Ependymoma
  - B) Choroid plexus papilloma
  - C) Meningioma
  - D) Medulloblastoma
45. Which of the delivery technique is not used in Proton Beam Therapy?
- A) Passive scattering including single scattering and double scattering
  - B) Passive scattering including double scattering and triple scattering
  - C) Uniform scanning (US)
  - D) Pencil beam scanning (PBS)
46. Medical management of ACTH secreting pituitary tumor does not include;
- A) Bromocriptine
  - B) Ketoconazole
  - C) Metyrapone
  - D) Mitotane
47. What is Ultra Low Dose Rate range in brachytherapy?
- A) 0.01 to 0.60 Gy per hour
  - B) 0.01 to 0.30 Gy per hour
  - C) 0.03 to 0.50 Gy per hour
  - D) 0.01 to 0.03 Gy per hour

48. T4 lesion of middle ear includes all of the following except
- A) Cochlear Erosion
  - B) Extensive soft tissue involvement
  - C) Eroding osseous EAC
  - D) Involvement of dura
49. To define pathological positive Extra-nodal extension (ENE+), which of the following is used?
- A) ENE<sub>n</sub>
  - B) ENE<sub>ma</sub>
  - C) ENE<sub>mi</sub>
  - D) ENE<sub>nx</sub>
50. Patient capable of only limited self care, confined to bed or chair, 50% or more of waking hours is;
- A) KPS 10-20
  - B) KPS 30-40
  - C) KPS 50-60
  - D) KPS 70-80
51. Rotterdam applicator is used in which malignancy?
- A) Conjunctival cancer
  - B) Carcinoma Nasopharynx
  - C) Carcinoma Hard palate
  - D) Carcinoma Prostate



57. Chordoma occurs most commonly at;
- A) Vertebral column
  - B) Sacrum
  - C) Base of skull
  - D) Orbit
58. Which of the following statement is true about LCH?
- A) Age is an important prognostic factor with children having poor outcomes than adults.
  - B) On electron microscopy, Birbeck granules are the classic finding.
  - C) Bony lesions from LCH are rarely lytic
  - D) Pulmonary involvement is more typically seen in children.
59. For LINAC-based SRS, what is the radiotherapy prescriptions for spinal AVMs
- A) 8 to 10Gy in a single fraction
  - B) 10 to 12 Gy in a single fraction
  - C) 16 to 24 Gy in a single fraction
  - D) 28 to 30 Gy in a single fraction
60. Which of the following is not a potential target for SRS in treatment of Tic Douloureux?
- A) Dorsal root entry zone (DREZ)
  - B) Retrogasserian target
  - C) Semilunar ganglion
  - D) Ciliary ganglion
61. To reduce the risk of recurrence most effectively, prophylactic RT following excision of keloid is given;
- A) Within the first 24 hours
  - B) After 2 days of excision to ensure proper healing.
  - C) After 1 week of excision to ensure proper healing.
  - D) No prophylactic RT should be given in any case.

62. Which is the most common extracranial tumor of childhood?
- A) Paraganglioma
  - B) Neuroblastoma
  - C) Nephroblastoma
  - D) Esthesioneuroblastoma
63. As per CHILDREN'S ONCOLOGY GROUP STAGING of Wilms tumor, Tumor spillage occurring either before or during surgery falls under which stage?
- A) Stage I
  - B) Stage II
  - C) Stage III
  - D) Stage IV
64. Which of the following is not included in diagnostic criteria of early stage mycosis fungoides?
- A) Persistent and/or progressive patches and plaques in Non-sun-exposed location
  - B) Size/shape variation
  - C) Poikiloderma
  - D) CD7>10% of T cells
65. True about EORTC technical recommendation for TSEBT is;
- A) The primary target in TSEBT is dermis only.
  - B) The optimal source-to-patient distance is 2 m.
  - C) A minimum of four treatment positions is recommended.
  - D) The globe of the eye must be limited to <15% of the maximum skin dose, and photoncontamination at the bone marrow must be limited to <0.7 Gy.
66. Deauville 3 is defined as;
- A) Uptake  $\leq$  mediastinal blood pool
  - B) Uptake > mediastinal blood pool but  $\leq$  liver
  - C) Uptake moderately increased compared to the liver
  - D) Uptake markedly increased compared to the liver or new sites of disease

67. Which of the following is a risk factor in FLIPI index for follicular lymphoma?
- A) Age <60 y
  - B) >2 nodal sites
  - C) Stage III-IV
  - D) Haemoglobin >12 g/dL
68. Which of the following is not included in 4 R of radiobiology?
- A) Radiosensitivity
  - B) Repopulation
  - C) Reoxygenation
  - D) Reassortment
69. Dose reduction factor (DRF) is defined as;
- A) Dose of radiation in the absence of the drug / Dose of radiation in the presence of the drug
  - B) Dose of radiation in the presence of the drug / Dose of radiation in the absence of the drug
  - C) Dose of radiation in the presence of the drug / Dose of radiation in the absence of the drug x 100
  - D) Dose of radiation in the absence of the drug / Dose of radiation in the presence of the drug x 100
70. GORTEC 94-01 demonstrated a benefit to concurrent chemoradiotherapy over radiotherapy alone in oropharyngeal cancer in terms of
- A) Overall survival only
  - B) Local control and overall survival
  - C) Local control only
  - D) No significant benefit was found
71. As per two pathway model of epithelial ovarian carcinogenesis, which of the following is not true for Type I tumor?
- A) Mucinous carcinoma
  - B) Clear cell carcinoma
  - C) Associated with serous tubal intraepithelial carcinomas (STICs)
  - D) Wild-type p53 status

72. As per IASLC lymph node map, Nodal station 3A is?
- A) Subcarinal
  - B) Prevascular
  - C) Paratracheal
  - D) Hilar
73. Which of the following is not a WHO type of thymoma
- A) B1
  - B) B2
  - C) B3
  - D) B4
74. Hemorrhagic brain metastasis is most commonly associated with;
- A) Melanoma
  - B) Merkel cell tumor
  - C) Nephroblastoma
  - D) ALL
75. BRCA 2 gene is located on;
- A) 11q21
  - B) 13q22
  - C) 17q21
  - D) 18q22
76. Schiller-Duval bodies are seen in;
- A) Yolk sac tumors
  - B) Granulosa cell tumors
  - C) Mucinous carcinoma
  - D) Malignant Brenner tumors



77. Which of the following is not a component of pathognomonic Triad for fallopian tube malignancy;
- A) Pelvic mass
  - B) Leukorrhea
  - C) Vaginal bleeding
  - D) Infertility
78. Stage IC2 of fallopian tube carcinoma is Stage IA or IB and;
- A) Surgical spill of ovarian or fallopian tube contents
  - B) Ovarian capsule ruptured after surgery
  - C) Tumor involving one or both ovaries with pelvic extension or primary peritoneal cancer
  - D) Ascites or peritoneal washings negative for malignant cells
79. What was the radiotherapy dose in Pelvic RT arm of PORTEC-3 trial?
- A) 45.6 Gy
  - B) 46.8 Gy
  - C) 50.4 Gy
  - D) 54 Gy
80. Which of the following is true as per the Radiation Oncology Cooperative Group (RTOG) established dose constraints for using postoperative IMRT in endometrial cancer.
- A) For bladder, <55% receives  $\geq 45$  Gy
  - B) For rectum, <60% receives  $\geq 45$  Gy
  - C) For small bowel, <10% receives  $\geq 40$  Gy
  - D) For femoral heads, <5% receives  $\geq 30$  Gy
81. The 9 valent vaccine shows significant activity against which HPV types?
- A) 30
  - B) 31
  - C) 46
  - D) 55



87. Which of the following chemotherapy is not used as first line in treatment of testicular carcinoma?
- A) Etoposide
  - B) Bleomycin
  - C) Cyclophosphamide
  - D) Cisplatin
88. Modified "dog-leg" field is used in radiotherapy of which carcinoma?
- A) Penile cancer
  - B) Testicular cancer
  - C) Nephroblastoma
  - D) Bladder carcinoma
89. Which of the following does not define very high risk group in Carcinoma prostate?
- A) T3b-T4
  - B) Primary gleason pattern 4
  - C) 2-3 high risk features
  - D) >4 cores with grade group 4 or 5
90. PSA persistence after radical prostatectomy(RP) is defined as;
- A) Failure of PSA to fall to undetectable levels
  - B) Undetectable PSA after RP with a subsequent detectable PSA that increases on 2 or more determinations
  - C) PSA increase by 2 ng/mL above nadir
  - D) PSA increase by 1 ng/mL above nadir
91. Correct dose of concurrent steroid which is to be given with Abiraterone in patients of carcinoma prostate is;
- A) Prednisone 5 mg PO once daily for the standard formulation
  - B) Prednisone 5 mg PO twice daily for the standard formulation
  - C) Methylprednisolone 4 mg PO once daily for the fine-particle formulation
  - D) Methylprednisolone 4 mg PO thrice daily for the fine-particle formulation

92. MVAC regimen for carcinoma bladder does not constitute;
- A) Methotrexate
  - B) Vincristine
  - C) Cisplatin
  - D) Doxorubicin
93. Bilharziasis is a risk factor for which cancer?
- A) Carcinoma Penis
  - B) Carcinoma Bladder
  - C) Carcinoma Lung
  - D) Carcinoma Colon
94. The factor which predicts for heightened acute normal tissue toxicity or poor cancer control in HIV infected anal cancer patients;
- A) a CD4 count  $<20/\mu\text{L}$  at the start of treatment
  - B) a CD4 count  $<50/\mu\text{L}$  at the start of treatment
  - C) a CD4 count  $<100/\mu\text{L}$  at the start of treatment
  - D) a CD4 count  $<200/\mu\text{L}$  at the start of treatment
95. Deuille score 3 is defined as;
- A) FDG uptake  $\leq$  mediastinum
  - B) FDG uptake  $>$  mediastinum  $\leq$  liver
  - C) FDG uptake  $>$  liver at any site
  - D) FDG uptake  $>$  liver and at new site
96. The C-PMRT index in breast carcinoma does not constitute which of the following?
- A) number of positive LN/lymphovascular invasion
  - B) tumour size
  - C) margin status and
  - D) tumour stage

97. Aim of the PORTEC-2 trial was;
- A) To compare pelvic external beam radiotherapy (EBRT) with vaginal brachytherapy (VBT) in high-intermediate risk (HIR) endometrial cancer.
  - B) To compare pelvic external beam radiotherapy (EBRT) with vaginal brachytherapy (VBT) in high-risk (HR) endometrial cancer.
  - C) To compare pelvic external beam radiotherapy (EBRT) with vaginal brachytherapy (VBT) in intermediate risk (IR) endometrial cancer.
  - D) To compare pelvic external beam radiotherapy (EBRT) with concurrent chemotherapy with vaginal brachytherapy (VBT) in high risk (HR) endometrial cancer.
98. CLEOPATRA, PINNOCHIO and CINDRELLA trials in management of CNS tumors are associated with which of the following?
- A) Proton therapy
  - B) Glial wafers
  - C) Carbon Ion therapy
  - D) TTF therapy
99. Which of the following is not true about Durvalumab?
- A) It is indicated for the treatment of patients with unresectable Stage III non-small cell lung cancer (NSCLC) whose disease has not progressed following concurrent platinum-based chemotherapy and radiation therapy.
  - B) It is indicated for the treatment of patients with metastatic NSCLC with no sensitizing epidermal growth factor receptor (EGFR) mutations.
  - C) It is indicated for the first-line treatment of adult patients with limited-stage small cell lung cancer (LS-SCLC)
  - D) It is indicated for adult patients with unresectable hepatocellular carcinoma
100. Which of the following fractionation is not commonly used in SABR for carcinoma lung?
- A) 25-34 Gy in 1 fraction
  - B) 45-60 Gy in 1 fraction
  - C) 50-55 Gy in 5 fractions
  - D) 60-70 Gy in 10 fractions

# ROUGH WORK

# ROUGH WORK

AL

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

Booklet Serial No. 214217

Test Booklet Series

TEST BOOKLET  
CHILD PSYCHOLOGY/CHILD PSYCHOLOGIST  
ANCILLARY STAFF  
Written Test - 2023  
(59)

A

Time Allowed: Two Hours

Maximum Marks: 100

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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.
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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.
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(59) (A)/2023

[P.T.O.]





1. The question, "Is intelligence more influenced by heredity or experience?" deals with a big issue in psychology known as
  - A) Stability vs. change
  - B) Rationality vs. irrationality
  - C) Structure vs. function
  - D) Nature vs. nurture
  
2. Which of the following glands interact(s) most directly with all of the others to help regulate body processes?
  - A) Pituitary
  - B) Adrenals
  - C) Parathyroids
  - D) Thyroid
  
3. Of the following, which are located exclusively in the central nervous system?
  - A) Afferent neurons
  - B) Interneurons
  - C) Efferent neurons
  - D) Glial cells
  
4. Paul Broca found that the loss of the ability to speak intelligibly is associated with damage to a region of the brain in the
  - A) Right parietal lobe
  - B) Right occipital lobe
  - C) Left temporal lobe
  - D) Left frontal lobe
  
5. Which task is primarily a right cerebral hemi-sphere function in most people?
  - A) Understanding written language
  - B) Processing visual information from the left eye
  - C) Recognizing faces
  - D) Processing sensory information from the right leg
  
6. Which sense is least involved in enabling you to maintain your balance when you stand on one foot?
  - A) Kinesthesia
  - B) Olfaction
  - C) Vision
  - D) Somatosensation

7. Once Pavlov's dogs learned to salivate to the sound of a tuning fork, the tuning fork was a(n)
- A) Unconditioned stimulus
  - B) Conditioned stimulus
  - C) Unconditioned response
  - D) Conditioned response
8. Shaping is
- A) A pattern of responses that must be made before classical conditioning is completed
  - B) Rewarding behaviors that get closer and closer to the desired goal behavior
  - C) Giving you chocolate pudding to increase the likelihood you will eat more carrots
  - D) Inhibition of new learning by previous learning
9. Which of the following best reflects negative reinforcement?
- A) Tina is scolded when she runs through the house yelling.
  - B) Soham is not allowed to watch television until after he has finished his homework.
  - C) Gagan changes his math class so he doesn't have to see his old friend
  - D) Aditya is praised for having the best answer in the class.
10. Latent learning is best described by which of the following?
- A) Unconscious meaning that is attributed to new response patterns
  - B) Response patterns that become extinguished gradually over time
  - C) Delayed responses that occur when new stimuli are paired with familiar ones
  - D) Learning that occurs in the absence of rewards
11. The three stages of the Atkinson-Shiffrin process of memory are
- A) Iconic, echoic, encoding
  - B) Sensory, short term, long term
  - C) Shallow, medium, and deep processing
  - D) Semantic, episodic, procedural
12. Phonemes are:
- A) The smallest unit of sound in a language
  - B) The smallest unit of meaning in a language
  - C) Semantically the same as morphemes
  - D) About 100 different words that are common to all languages

13. Organized sets of concepts that explain phenomena are
- A) Independent variables
  - B) Hypotheses
  - C) Theories
  - D) Statistics
14. A quasi-experiment cannot be considered a controlled experiment because
- A) Subjects cannot be randomly selected
  - B) Subjects cannot be randomly assigned
  - C) Experimenter bias is unavoidable
  - D) Too few subjects participate in the procedure
15. Imprinting is
- A) The adaptive response of an infant when its mother leaves a room
  - B) A period shortly after birth when a newborn reacts to salty, sweet, or bitter stimuli
  - C) A period shortly after birth when an adult forms a bond with his or her newborn
  - D) The tendency of some baby animals to form an attachment to the first moving object they see or hear during a critical period after birth
16. According to the Yerkes-Dodson model, when facing a very difficult challenge, which level of arousal would probably lead to the best outcome?
- A) A very low level
  - B) A moderately low level
  - C) A moderately high level
  - D) A very high level
17. Homeostasis refers to
- A) Arousal of the sympathetic nervous system
  - B) A tendency for individuals to behave consistently when highly motivated
  - C) A need state resulting from the physiological experience of hunger or thirst
  - D) The body's tendency to maintain a balanced internal state
18. Follicle stimulating hormone (FSH) and luteinizing hormones (LH) are most closely associated with which of the following motivated behaviors?
- A) Hunger
  - B) Thirst
  - C) Sex
  - D) Anxiety

19. Researchers were interested in studying the effects of divorce on children. Their study included 250 4-year-olds. Interviews and family observations were conducted 6 months, 2 years, 5 years, and 10 years after the initial interviews and observations. Which method did the researcher use?
- A) Cross-sectional
  - B) Longitudinal
  - C) Experimental
  - D) Quasi-experimental
20. Object permanence is
- A) The belief that all objects have life just like humans do
  - B) The understanding that a tall beaker and a short beaker can hold the same amount of water
  - C) A belief that all objects in the world, including mountains and streams, are made by people
  - D) The understanding that things continue to exist even when they are out of sight
21. The rooting reflex is a neonate's tendency to
- A) Open its mouth and turn its head when touched on the cheek
  - B) Throw out its arms and legs and quickly retract them when startled
  - C) Explore the world through sucking objects
  - D) Look longer at round shapes that look like faces than square shapes that do not
22. The child was born with widely spaced eyes, a thin upper lip, and a short flat nose. Chances are that he will later suffer from mental retardation. To which teratogen was this child most likely exposed during the prenatal period?
- A) Tobacco
  - B) German measles
  - C) Heroin
  - D) Alcohol
23. According to social learning theory, gender identity is
- I. A process which occurs when young children unconsciously identify with the same-sex parent.
  - II. A result of being positively reinforced for acting in ways that conform to male and female roles.
  - III. Learned through observing and imitating role models like their parents.
- A) I only
  - B) II only
  - C) III only
  - D) II and III only

24. Which of the following is a similarity between the cognitive developmental theory of Piaget and the moral developmental theory of Kohlberg?
- A) Both theories stress the importance of changes in thinking in their stages.
  - B) Both believe personality is formed in the first 5 years.
  - C) Both theories stress the importance of the third stage in the developmental process.
  - D) Both developed a life span theory and had eight stages.
25. According to Kohlberg's theory, postconventional morality requires thinking at Piaget's
- A) Sensorimotor level
  - B) Preoperational level
  - C) Concrete operational level
  - D) Formal operational level
26. Which is an example of a projective test, consisting of a set of ambiguous pictures about which people are asked to tell a story?
- A) TAT
  - B) MMPI-2
  - C) 16 PF
  - D) Rorschach
27. In order to determine a client's personality, Carl Rogers used a Q-sort to measure the difference between
- A) Self-esteem and self-efficacy
  - B) Ideal self and real self
  - C) Locus of control and self-actualization
  - D) Ego strength and need for approval
28. In contrast to the blank slate view of human nature held by the behaviourists, humanists believe that humans are born
- A) Evil and instinctively selfish
  - B) Good and with an inner drive to reach full potential
  - C) Neutral and that personality is based on perceptions of reality
  - D) Neither good nor evil, but personality is a product of their environment
29. The most commonly used personality assessments are
- A) Projective tests
  - B) Structured interviews
  - C) Self-report inventories
  - D) Behavior assessments
30. Adler would not have agreed with the importance of which of the following ideas?
- A) Birth order
  - B) Striving for superiority
  - C) Fictional finalism
  - D) Womb envy

31. A relatively permanent characteristic of personality that can be used to predict behaviour is
- A) The id
  - B) The ego
  - C) A defense mechanism
  - D) A trait
32. Self-efficacy, according to Bandura, is
- A) How you view your worth as a person
  - B) How you think about your self-image
  - C) What others have conditioned you to see in yourself
  - D) How competent you feel to accomplish tasks and goals
33. Aptitude tests are designed to measure
- A) Previously learned facts
  - B) Future performance
  - C) Previously learned skills
  - D) Your IQ score
34. Rakhi is a 10-year-old girl with a mental age of 12. According to the scoring of the Stanford- Binet test, Rakhi's intelligence quotient score is
- A) 12
  - B) 83
  - C) 95
  - D) 120
35. If a teacher compared the scores of students on the odd-numbered questions on the test with their scores for the even-numbered questions, she would be attempting to determine if the test had
- A) Content validity
  - B) Split-half reliability
  - C) Predictive validity
  - D) Test-retest reliability
36. Advantages of group tests as compared to individualized tests include
- A) That they are cheaper and give more accurate results
  - B) That they can be given to a large group of people at one time and are cheaper to score
  - C) The ability to establish rapport between the examiner and subjects to put them at ease
  - D) That they have proven to be more reliable and valid in measuring abilities

37. Which of the following best describes Charles Spearman's g of intelligence?
- A) There are many factors that determine intelligence, but genetics is the most important one.
  - B) The internal validity of an intelligence test is g.
  - C) A general intelligence that underlies success on a wide variety of tasks is g.
  - D) The g is measured by the speed with which one can process information.
38. According to Sternberg, which of the following types of intelligence in his triarchic theory are measured by standard IQ tests?
- I. Analytic
  - II. Practical
  - III. Creative
- A) I only
  - B) II only
  - C) III only
  - D) I, II, and III
39. During development of standardized tests, questions that are answered correctly by almost all students and those that are missed by almost all students are eliminated. Why?
- A) Only questions that are moderately difficult should be included on a test.
  - B) These questions fail to show individual differences in abilities.
  - C) These questions are poorly written.
  - D) This eliminates bias in administering the test.
40. Mrs. Sharma, who is 70, takes longer to solve problems that require abstract reasoning than she did when she was 30. This tendency indicates
- A) A decrease in her overall intelligence level
  - B) An increase in her crystallized ability
  - C) A decline in her fluid intelligence
  - D) A problem in her concrete operational thought
41. Which of the following best characterizes a person experiencing obsessive-compulsive disorder?
- A) Asha, who hyperventilates whenever she is trapped in an elevator
  - B) Beena, who returns home seven times to see if she has turned off the stove
  - C) Kajal, who complains constantly about feeling sick and goes to many different doctors
  - D) Kabir, who keeps remembering the plane crash that killed the other members of his family



42. Which of the following is NOT characteristic of the manic state of bipolar disorder?
- A) Inflated ego
  - B) Shopping sprees
  - C) Fearlessness
  - D) Too much sleep
43. Paranoid personality disorder is characterized by
- A) Unwarranted suspiciousness and mistrust of other people
  - B) Lack of interest in social relationships
  - C) Unusual preoccupation with rules and schedules
  - D) Instability revolving around problems of mood and thought processes
44. A delusion is a
- A) Phobia of being in social situations
  - B) Misperception of auditory and visual stimuli
  - C) Faulty and disordered thought pattern
  - D) First indication of dissociative disorders
45. Which of the following is a negative symptom of schizophrenia?
- A) Delusional thinking
  - B) Incoherent speech
  - C) Hearing voices
  - D) Flat affect
46. Jyoti is telling her therapist about the dream she had last night, and her therapist begins to interpret it for her. Which approach to psychotherapy does Jyoti's therapist probably represent?
- A) Psychoanalytical
  - B) Behavioral
  - C) Gestalt
  - D) Cognitive
47. Siddhant came to a clinical psychologist for his fear of heights. First, the Clinical Psychologist asked Siddhant to list all of the situations concerning heights that led to his fear response. After they had ordered them from least fear-provoking to most fear-provoking, the Clinical Psychologist had Siddhant listen to soothing music and slowly relaxed him as he imagined each step. Which of the following best describes Clinical Psychologist's treatment?
- A) The exposure technique of flooding
  - B) Systematic desensitization
  - C) Rational emotive therapy
  - D) Aversive conditioning

48. The goal of psychoanalytic therapy is
- A) To change maladaptive behavior to more socially acceptable behavior
  - B) To change negative thinking into more positive attributions
  - C) To unite the mind and body elements into a whole
  - D) To bring unconscious conflicts to conscious awareness and gain insight.
49. Ethnocentrism is the belief that
- A) Ethnic foods are all good
  - B) Human diversity is a positive force
  - C) One's own culture is superior to others
  - D) Other people are all pretty much alike in their opinions
50. The belief of ancient Greeks such as Hippocrates and Galen about the cause of abnormal behavior was closest to which of the following modern approaches to psychology?
- A) Behavioral
  - B) Humanistic
  - C) Cognitive
  - D) Biomedical
51. After conducting a meta-analysis of over 378 outcome studies on the effectiveness of psychotherapies, psychologists concluded that
- A) Evidence supported its efficacy
  - B) Psychotherapy is no more effective than talking to a friend
  - C) The potential to do further harm to the patient with psychotropic drugs outweighs its effectiveness
  - D) Of all treatments, psychoanalysis proved the most beneficial over all other types of therapy
52. The effect of one confederate selecting a different line from the others in the Asch conformity test was
- A) Continuing conformity by the participant to avoid looking bad to the others
  - B) The participant asking to vote privately on a separate piece of paper
  - C) A boost to the self-efficacy of the participant
  - D) To release the participant from the conformity effect
53. A charity sends you some greeting cards, and you feel that you should send them a small contribution. This feeling comes from the persuasion technique called
- A) Foot-in-the-door
  - B) Reciprocity
  - C) Door-in-the-face technique
  - D) Low-ball technique

54. Which of the following would play a role in quickly alerting you to a gas leak in your house?
- A) Olfactory receptors
  - B) Gustatory receptors
  - C) Feature detectors
  - D) Basilar membrane
55. Which approach emphasizes that therapists can effectively help their clients by offering unconditional positive regard?
- A) Gestalt therapy
  - B) Cognitive therapy
  - C) Humanistic therapy
  - D) Behavior modification
56. An unjustifiable and usually negative attitude toward a group and its members is called
- A) Prejudice
  - B) Ethnocentrism
  - C) In-group bias
  - D) Scapegoating
57. Which neurotransmitter is most closely associated with both Parkinson's disease and schizophrenia?
- A) Acetylcholine
  - B) Dopamine
  - C) Serotonin
  - D) Endorphins
58. According to Erikson, a young adult's developmental crisis centers around
- A) Intimacy vs. isolation
  - B) Identity vs. role confusion
  - C) Autonomy vs. shame and guilt
  - D) Industry vs. inferiority
59. According to Adler, firstborn children are more likely than subsequent children in a family to be
- A) Sociable
  - B) Funny
  - C) Responsible
  - D) Followers

60. According to Abraham Maslow, esteem needs must at least be partially met before one is prompted to satisfy
- A) Belongingness needs
  - B) Physiological needs
  - C) Self-actualization needs
  - D) Love needs
61. The Intelligence Quotient is defined as the
- A) Chronological age/mental age x 100
  - B) Performance score/verbal score X 100
  - C) Mental age/chronological age X 100
  - D) Verbal score/performance score X 100
62. According to Elisabeth Kubler-Ross, the first reaction of a person faced with a terminal illness is
- A) Acceptance
  - B) Anger
  - C) Bargaining
  - D) Denial
63. A disorder characterized by delusions of persecution, hallucinations, and disordered thinking is
- A) Paranoid schizophrenia
  - B) Anorexia nervosa
  - C) Conversion disorder
  - D) Hypochondriasis
64. Tests that have been pretested with a sample of the population for whom the test is intended and have a uniform set of instructions and administration procedures are
- A) Valid
  - B) Standardized
  - C) Reliable
  - D) Predictive
65. Wilder Penfield's studies suggest that some long-lost memories can be elicited through electrical stimulation of the brain. This suggests that forgetting may be a matter of
- A) Displacement
  - B) Gradual decay
  - C) Retrieval failure
  - D) Failure to encode the memories

66. A classically conditioned response can best be eliminated by presentation of
- A) The unconditioned stimulus without the conditioned stimulus
  - B) The conditioned stimulus without the unconditioned stimulus
  - C) A neutral stimulus
  - D) Conditioned stimulus a few seconds before the unconditioned stimulus
67. Dinesh collected data on 15 research participants. Their scores were: 42, 38, 14, 13, 12, 12, 11, 11, 11, 10, 10, 10, 9, 9, 9. Which of the following statistics best reflects the central tendency of this data set?
- A) Standard deviation
  - B) Mode
  - C) Median
  - D) Mean
68. "Give biscuit," best exemplifies
- A) Babbling
  - B) Cooing
  - C) Holophrases
  - D) Telegraphic speech
69. Which of the following are included in the peripheral nervous system?
- A) Brain, spinal cord, cranial nerves
  - B) Cranial nerves, spinal nerves, autonomic ganglia
  - C) Spinal cord, spinal nerves, sense organs
  - D) Amygdala, hippocampus, hypothalamus
70. Loss of the ability to understand language results from loss of tissue in which of the following lobes?
- A) Right frontal
  - B) Right temporal
  - C) Right parietal
  - D) Left temporal
71. Which of the following reinforcement schedules results in maintenance of behavior that is LEAST resistant to extinction?
- A) Continuous
  - B) Fixed ratio
  - C) Fixed interval
  - D) Variable interval

72. Alpha waves are most closely associated with
- A) The hypnagogic state
  - B) Stage 2 sleep
  - C) Stage 3 sleep
  - D) Stage 4 sleep
73. To act consistently with the group's behavior, Esha changed what she was doing. This illustrates
- A) Stereotyping
  - B) Conformity
  - C) Out-group homogeneity
  - D) Hindsight bias
74. Children are most likely to grow up more competent and responsible when they are raised by parents who behave in a manner considered
- A) Authoritarian
  - B) Authoritative
  - C) Permissive
  - D) Inconsistent
75. Free association and dream interpretation frequently characterize which of the following treatments?
- A) Psychoanalysis
  - B) Behavior therapy
  - C) Humanistic therapy
  - D) Cognitive therapy
76. The part of the neuron that directs synthesis of neurotransmitters and proteins is the
- A) Cell body
  - B) Dendrite
  - C) Axon
  - D) Myelin sheath
77. According to Jean Piaget, egocentrism, animism, and trial-and-error learning are characteristic of the stage of development known as
- A) Preoperational
  - B) Sensorimotor
  - C) Concrete operational
  - D) Formal operational

78. Collective unconscious, archetypes, and individuation are personality concepts most closely associated with
- A) Sigmund Freud
  - B) Carl Jung
  - C) B) F. Skinner
  - D) Karen Horney
79. Hunger, thirst, and sex are most closely associated with stimulation of the
- A) Pons
  - B) Cerebellum
  - C) Hypothalamus
  - D) Basal ganglia
80. According to Selye's General Adaptation Syndrome (GAS) theory, of the following stages, we are most susceptible to disease during
- A) Resolution
  - B) Resistance
  - C) Alarm
  - D) Exhaustion
81. An action potential involves the movement of
- A) Glucose into the axon
  - B) Fats out of the axon terminal
  - C) Molecules in the synaptic gap
  - D) Sodium ions into the axon
82. Which of the following usually increases with age in healthy adults between the ages of 18 and 70?
- A) Fluid intelligence
  - B) Crystallized intelligence
  - C) G
  - D) IQ scores
83. In time-out, a disruptive child who wants to stay with his or her class is removed from the classroom. This exemplifies
- A) Positive reinforcement
  - B) Negative reinforcement
  - C) Positive punishment
  - D) Omission training

84. According to the opponent process theory of emotions,
- A) Red emotions are followed by green emotions
  - B) Happiness and unhappiness combine to keep someone relatively stable over a lifetime
  - C) Repetitions of an emotion-arousing event strengthen the opposing emotion
  - D) Judgments of emotions are relative to a neutral level defined by prior experience
85. The contingency model explains classical conditioning from which of the following perspectives?
- A) Behavioural
  - B) Psychoanalytic
  - C) Cognitive
  - D) Humanistic
86. All people have essentially the same set of traits, differing only in terms of the extent to which they show each trait, according to which of the following personality theories?
- A) Nomothetic
  - B) Idiographic
  - C) Freudian
  - D) Biological
87. Lev Vygotsky's approach to the study of cognitive development was
- A) Behavioural
  - B) Biological
  - C) Sociocultural
  - D) Evolutionary
88. The term used for describing a child's one-word utterances is -
- A) Holophrases
  - B) Telegraphic speech
  - C) Under extensions
  - D) None of the above
89. The range of IQ in the people with moderate mental retardation is -
- A) 35 to 54
  - B) 10 to 19
  - C) 20 to 34
  - D) 55 to 70
90. Who started the scientific study of creativity?
- A) Mednick
  - B) Guilford
  - C) Galton
  - D) Torrance



91. Who is the author of the book "principles of psychology"?
- A) Charles Darwin
  - B) Sigmund Freud
  - C) William James
  - D) Wilhelm Wundt
92. Which of the following method is used for memorizing a poem?
- A) Serial memorizing
  - B) Syntactic memorizing
  - C) Distributed practice
  - D) None of the above
93. The act in which people help someone without any reason, motive, or we can say personal interest is known as -
- A) Nurturance
  - B) Social obligation
  - C) Prosocial behavior
  - D) None of the above
94. For how many seconds, short-term memory holds information?
- A) 30 seconds or less
  - B) 50 seconds
  - C) More than 50 seconds
  - D) None of the above
95. Who is the founder of the "Individual Psychology"?
- A) Alfred Adler
  - B) Alfred Binet
  - C) David Hull
  - D) None of the above
96. In a mild intellectual disability case, the person has an IQ of
- A) 70-89
  - B) 50-69
  - C) 45-65
  - D) 55-75
97. Developmental schedules are most useful for the age group of
- A) 5-15 years
  - B) 0-3 years
  - C) 3-18 years
  - D) 0-5 years

98. "Social learning and imitation" was written by
- A) Albert Bandura
  - B) Miller and Dollard
  - C) Miller and Bugelski
  - D) Albert Bandra and Miller
99. Who modified the TAT to measure need for achievement?
- A) Lindzey
  - B) McClelland
  - C) Allport
  - D) McCrae
100. The child does not finish a puzzle in the time they were asked to do. The child responds with "I am baD)" This demonstrates:
- A) A poor self-image
  - B) A global attribution
  - C) Internal focus
  - D) A specific attribution
-

# ROUGH WORK

**CONFIDENTIAL**

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

Booklet Serial No. **215485**

**Test Booklet Series**

**TEST BOOKLET  
PHARMACOLOGY**

**A**

**Written Test - 2023**

**(75)**

**Time Allowed: Two Hours**

**Maximum Marks: 100**

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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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  - (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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**(75) (A)/2023**

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

(75) (A)

(2)

1. Aspirin and phenobarbitone are acidic drugs whereas diazepam is a basic drug. Identify the false statement about these drugs.
- A) Aspirin is present mainly in non-ionized form in stomach, hence can be easily absorbed
  - B) Diazepam is mostly absorbed from intestine
  - C) Phenobarbitone can be absorbed from stomach but most of the absorption occurs in small intestine
  - D) No drug is absorbed in large intestine due to its small surface area
2. Mohan was taking an anticoagulant drug X (half-life = 14 hours) regularly. The treating doctor prescribed him a drug Y (which is known to enhance the action of drug X), and asked Mohan to stop taking the drug X. Mohan started the drug Y immediately and developed epistaxis 4 hours later. The treating doctor should have advised the patient to start drug Y,
- A) 14 hours after stopping drug X
  - B) 1 day after stopping drug X
  - C) 2 days after stopping drug X
  - D) 3 days after stopping drug X
3. A patient suffering from epilepsy is to be advised oral loading dose of an antiepileptic drug. If the patient weight is 80 kg, therapeutic concentration of this drug is 8 mg/L, the volume of distribution is 1 L/kg, and oral bioavailability is 80%, what would be the loading dose of this particular antiepileptic drug:
- A) 64 mg
  - B) 80 mg
  - C) 640 mg
  - D) 800 mg
4. Which is not true for Azithromycin
- A) Magnesium antacids does not alter its extent of absorption
  - B) It is an inhibitor of cytochrome P450
  - C) It does not penetrate CSF
  - D) It can be used with a beta-lactam antibiotic to treat community-acquired pneumonia

5. Which drug amongst the following has the lowest bioavailability, due to its high first pass metabolism:
- A) Phenobarbitone
  - B) Theophylline
  - C) Acetyl salicylic acid
  - D) Propranolol
6. The drug which does not act by competitive inhibition of an enzyme is:
- A) Allopurinol
  - B) Physostigmine
  - C) Finasteride
  - D) Acetazolamide
7. The drug combination which shows similar pharmacological action but are physiological antagonist of each other:
- A) Aspirin and paracetamol
  - B) Amlodipine and atenolol
  - C) Ephedrine and theophylline
  - D) Hydrochlorothiazide and triamterene
8. Significant tolerance may develop to which of the following drugs:
- A) Atropine sulphate
  - B) Digoxin
  - C) Sodium mononitrate
  - D) Morphine sulphate

9. Which drug can cause the birth defect shown in the picture below:



- A) Phenytoin
- B) Tetracyclines
- C) Thalidomide
- D) Sulfonamide

10. A 20-year-old boy developed severe acute abdominal pain on right side and was rushed to emergency. On further evaluation he was diagnosed to have acute appendicitis and was planned for appendectomy. Which is the recommended antibiotic for prophylaxis before surgery?

- A) Cefoxitin
- B) Fluoroquinolones
- C) Trimethoprim-sulfamethoxazole
- D) Azithromycin

11. Phenformin is no longer used as an antidiabetic due to risk of:

- A) Hepatotoxicity
- B) Renal toxicity
- C) Lactic acidosis
- D) Cardiotoxicity



12. Which reversible anticholinesterase inhibitor is used for the test shown in pictures below (A before drug administration and B after drug administration):



- A) Physostigmine  
B) Pyridostigmine  
C) Edrophonium  
D) Neostigmine
13. Which of the following drugs act through heptahelical (serpentine) receptor?  
A) Insulin  
B) Local anesthetic  
C) Estrogen  
D) Salbutamol
14. A patient complains of dryness in the nose and loss of sense of smell. Chronic use of which of the following drug may be responsible for these adverse effects:  
A) Normal nasal saline drops  
B) Xylometazoline nasal drop  
C) Salbutamol inhalation  
D) Budenoside inhalation
15. All of the following reactions are catalyzed by microsomal enzymes except:  
A) Glucuronidation  
B) Acetylation  
C) Oxidation  
D) Reduction

16. Melanosis coli can be caused by chronic use of -
- A) Bisacodyl
  - B) Sodium Picosulfate
  - C) Docusate
  - D) Senna
17. Match the following:
- |                        |                     |
|------------------------|---------------------|
| (1) Cardiac stimulant  | (i) Salbutamol      |
| (2) Bronchodilator     | (ii) Isoprenaline   |
| (3) Nasal decongestant | (iii) Amphetamine   |
| (4) CNS stimulant      | (iv) Xylometazoline |
- A) 1-(ii), 2-(i), 3-(iv), 4-(iii)
  - B) 1-(iii), 2-(i), 3-(ii), 4-(iv)
  - C) 1-(iv), 2-(i), 3-(ii), 4-(iii)
  - D) 1-(i), 2-(iii), 3-(ii), 4-(iv)
18. Which of the following alpha-adrenergic blocking agents is uroselective?
- A) Phenoxybenzamine
  - B) Prazocin
  - C) Tamsulosin
  - D) All of above
19. Which of the following is an incorrect statement regarding prazosin?
- A) It blocks alpha 1 receptors
  - B) It adversely affects lipid profile
  - C) It is a blood vessel dilator
  - D) It can be used in the management of BPH
20. Which of the following is not a cardioselective beta blocker?
- A) Metoprolol
  - B) Atenolol
  - C) Acebutolol
  - D) Propranolol

21. The drugs that need a prescription from a registered medical prescriber come under which schedule as per Drug and Cosmetic Act, 1940.

- A) Schedule H
- B) Schedule J
- C) Schedule X
- D) Schedule Y

22. Match the following antibiotics with their correct mechanism of action:

- |                                  |                              |
|----------------------------------|------------------------------|
| 1. Cell wall synthesis inhibitor | (i) Flouroquinolones         |
| 2. Protein synthesis inhibitor   | (ii) Beta lactam antibiotics |
| 3. Antifolate antibiotics        | (iii) Tetracycline           |
| 4. DNA gyrase inhibitor          | (iv) Sulfonamide             |
- A) 1-(ii), 2-(iii), 3-(iv), 4-(i)
  - B) 1-(ii), 2-(i), 3-(iii), 4-(iv)
  - C) 1-(iv), 2-(i), 3-(ii), 4-(iii)
  - D) 1-(i), 2-(iii), 3-(ii), 4-(iv)

23. The recommended dose of Vitamin A for retinitis pigmentosa patients

- A) 5,000 IU
- B) 10,000 IU
- C) 15,000 IU
- D) 20,000 IU

24. Match the following antiretroviral drugs with their correct mechanism of action.

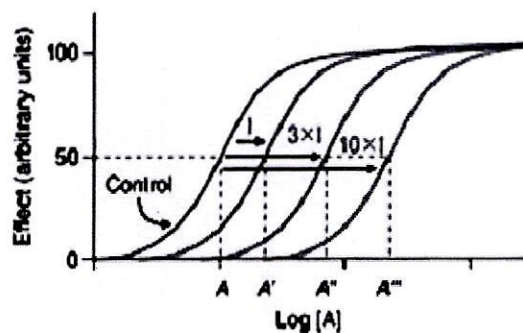
- |                |  |
|----------------|--|
| 1. Maraviroc   | (i) Non nucleoside reverse transcriptase inhibitor |
| 2. Abacavir    | (ii) Integrase inhibitor                           |
| 3. Efavirenz   | (iii) Nucleoside reverse transcriptase inhibitor   |
| 4. Raltegravir | (iv) Entry inhibitor                               |

- A) 1-(i), 2-(ii), 3-(iv), 4-(iii)
- B) 1-(iv), 2-(iii), 3-(i), 4-(ii)
- C) 1-(iv), 2-(i), 3-(ii), 4-(iii)
- D) 1-(iii), 2-(ii), 3-(iv), 4-(i)

25. Raju, a 42-year-old NGO worker recently visited Bihar and was consequently diagnosed with visceral leishmaniasis. Which of the following medicines should be prescribed to him for this infection.
- A) Metronidazole
  - B) Amphotericin B
  - C) Chloroquine
  - D) D.Nitazoxanide
26. Which of the following statement is true for Droxidopa:
- A) It acts on D1 receptor in low doses and  $\beta$  1 receptors in high doses.
  - B) It acts by conversion to Norepinephrine
  - C) It is used for sedation under intensive care circumstances
  - D) It is a dopamine receptor antagonist
27. Rimonabant, an anorectic agent, acts on cannabinoid receptor as:
- A) Agonist
  - B) Partial agonist
  - C) Inverse agonist
  - D) Agonist-antagonist
28. Dyuti, a 35-year-old female from Kolkata presented to the dermatology OPD. She was diagnosed with Tinea capitis. Consequently, she was prescribed an oral drug and was instructed to take it with a fatty meal. Which of the following medicines she could have been prescribed?
- A) Minoxidil
  - B) Terfenadine
  - C) 5-Fluorouracil
  - D) Griseofulvin
29. Which of the following statement is false about placebo?
- A) Used during randomized controlled clinical trails
  - B) Naloxone cannot block placebo induced analgesia
  - C) Placebo effects are highly variable even in the same individual
  - D) Works by psychodynamic effect

30. A pharmaceutical company has conducted a phase-3 trial of a novel agent for treatment of Diabetes Mellitus. Which of the following application will be the next step to launch the drug in market?
- A) IND  
B) NDA  
C) FDA  
D) PDUFA
31. Most commonly used immunosuppressant is:
- A) Glucocorticoids  
B) Cyclosporine  
C) Tacrolimus  
D) Methotrexate
32. Mr. Agarwal has been taking a certain medication for high LDL cholesterol for the last one year. Now he presents to the OPD with symptoms of severe fatigue, proximal muscle pain, and tenderness. The cardiologist orders serum creatine kinase, which is elevated more than 10 times the upper limit of the normal range. Which of the following medications could Mr. Agarwal be taking?
- A) Cholestyramine  
B) Niacin  
C) Simvastatin  
D) Fenofibrate
33. Bisphosphonate's mechanism of action for osteoporosis is.
- A) Inhibitory effect on osteoclast.  
B) Stimulatory effect on osteocyte  
C) Inhibitory effect on osteocyte  
D) Stimulatory effect on osteoblast
34. Priya, a second-year college student, went to a night club where she consumed an illicit drug that she took to experience high and euphoria. She now presents to the Emergency Room with respiratory depression, pinpoint pupil and delirium. Which of the following antidote is most likely to be beneficial in her case.
- A) Atropine  
B) Flumazenil  
C) Naloxone  
D) Rimonabant

35. A 19-year-old girl was given a 2-month prescription for the treatment of severe acne vulgaris in dermatology OPD. Two months later, the girl presented to the OPD with complaint of brown discoloration and staining of her teeth. Which of the following medicines in her prescription could have been responsible for this?
- A) Isotretinoin  
 B) Benzoyl peroxide  
 C) Minocycline  
 D) Metronidazole
36. What type of effect is depicted in the following diagram.



- A) Competitive Antagonism  
 B) Non-Competitive Antagonism  
 C) Allosteric Modulation  
 D) Agonism
37. Which of the following is the least ototoxic drugs amongst the following options:
- A) Kanamycin  
 B) Furosemide  
 C) Fenofibrate  
 D) Cisplatin
38. A 38-year-old primigravida, presented to the tertiary care hospital after onset of labor and consequently delivered a baby with short limbs and severe nasal hypoplasia. On further history taking, it was found that this pregnancy was unplanned, and she had been taking a certain medication regularly for her atrial fibrillation, which is suspected to have led to this presentation in the newborn. Which of the following drug could it be.
- A) Sotalol  
 B) Phenytoin  
 C) Heparin  
 D) Warfarin

39. Identify the inverse agonist on H3 receptor
- A) Promethazine
  - B) Reserpine
  - C) Tiprolisant
  - D) Flumazenil
40. Which of the following is a thrombolytic medication:
- A) OXETHAZAINE
  - B) IMITAT
  - C) ALTEPLASE
  - D) TIPROLISANT
41. Norepinephrine doesn't have significant agonist activity at which of the following receptor?
- A) Beta 1
  - B) Beta 2
  - C) Alpha 1
  - D) None of the above
42. A 3-year-old boy Chintu presents to the ophthalmology OPD for refraction testing. The medication used to relax the ciliary muscles in the eye and decreasing the excessive power of accommodation. Which of the following eye drop could it be.
- A) Pilocarpine
  - B) Phenylephrine
  - C) Atropine
  - D) Carboxy methyl cellulose
43. Which of these drugs is a funny current (If) blocker/
- A) Ivabradine
  - B) Ranolazine
  - C) Digibind
  - D) Diltiazem

44. Which of the following is not an organophosphate compound?
- A) Malathion
  - B) Diazinon
  - C) Tabun
  - D) Propoxur
45. Which inert carrier is used with nitroglycerin to prevent its explosive nature?
- A) Galactose
  - B) Lactose
  - C) Inositol
  - D) Sorbose
46. You read in newspapers that a promising new drug for hypertension failed in the last leg clinical trials and could not get marketing approval because of safety issues. Which phase of clinical trial could they be referring to?
- A) Phase I
  - B) Phase II
  - C) Phase III
  - D) Phase IV
47. Which type of calcium channel is sensitive to dihydropyridine calcium channel blockers?
- A) L type
  - B) N type
  - C) T type
  - D) Both B and C
48. What is the advantage of fospropofol over propofol?
- A) Its injection is less painful than propofol
  - B) Early onset of action
  - C) Early recovery than propofol
  - D) All of the above



49. Which of the following antihypertensive drug is contraindicated in pregnancy?
- A) Amlodipine
  - B) Ramipril
  - C) Labetalol
  - D) Methyldopa
50. Which among the following drug doesn't alter the AV conduction when administered concurrently with a beta blocker?
- A) Diltiazem
  - B) Verapamil
  - C) Nifedepine
  - D) All of the above
51. Which is the only drug class that is effective in reducing the severity and frequency of attacks of exertional angina and in improving survival in patients who have had an MI?
- A)  $\alpha$  blockers
  - B) calcium channel blockers
  - C)  $\beta$  blockers
  - D) Nitrates
52. All the following characteristics are associated with spurious drugs except-
- A) Substitution wholly or in part by another drug or substance
  - B) Purported to be the product of a manufacturer of whom it is not truly a product
  - C) Not labelled in the prescribed manner
  - D) Imported under a name which belongs to another drug
53. The following are the drugs used for the treatment of migraine. Which one of the following drugs has maximum volume of distribution as per their plasma half-life?
- A) Almotriptan (Half-life 3.3h)
  - B) Frovatriptan (Half-life 27h)
  - C) Sumatriptan (Half-life 2h)
  - D) Zolmitriptan (Half-life 2.8h)
54. Which among the following drugs is a direct renin inhibitor?
- A) Candesartan
  - B) Mecamylamine
  - C) Aliskiren
  - D) Triamterene

55. Which of the following drug is only indicated for pheochromocytoma?
- A) Metyrosine ( $\alpha$ -Methyl-Paratyrosine)
  - B) Nifedipine
  - C) Metoprolol
  - D) Clevidipine
56. Aliskiren is associated with:
- A) Renal failure
  - B) Heart failure
  - C) Angioedema
  - D) Decreased AV conduction
57. Which of the following is true for competitive enzyme inhibition?
- A)  $K_m$  increases
  - B)  $K_m$  decreases
  - C)  $V_{max}$  increases
  - D) No change in  $K_m$
58. Which of the following antihypertensive agents is preferred in microalbuminuria?
- A) Calcium channel blockers
  - B) Beta blockers
  - C) Angiotensin receptor blockers
  - D) Thiazide diuretics
59. Which class of drugs are contraindicated in bilateral renal artery stenosis?
- A) Calcium channel blockers
  - B) Beta blockers
  - C) Diuretics
  - D) ACE Inhibitors

60. Which of the following drug is used to treat postpartum depression?

- A) Diazepam
- B) Alprazolam
- C) Brexanolone
- D) Bicuculine

61. Glycine enters the synaptic vessels via \_\_\_\_\_.

- A) GLYT1
- B) VGAT
- C) GLYT2
- D) NMDA

62. Filorexant is an antagonist at \_\_\_\_\_.

- A) Orexin
- B) Tachykinin
- C) Cholesystokinin
- D) Neurotensin

63. Which SSRI is FDA-approved for treatment of bulimia nervosa?

- A) Paroxetine
- B) Citalopram
- C) Fluoxetine
- D) Sertraline

64. Arrange the following drugs in decreasing order of their half lives

- I. Doxepin
  - II. Amitriptyline
  - III. Protriptyline
  - IV. Imipramine
- A) I, II, III, IV
  - B) II, III, IV, I
  - C) III, I, II, IV
  - D) IV, I, II, III

65. Which among the following is a 5HT<sub>3</sub> antagonist?
- A) Tegaserod
  - B) Prucalopride
  - C) Metoclopramide
  - D) Alosetron
66. For ringworm and onychomycosis, the drug used is \_\_\_\_\_.
- A) Griseofulvin
  - B) Terbinafine
  - C) Micafungin
  - D) Anidulafungin
67. Which of the following drug is being evaluated for treatment of neonatal symptomatic congenital Cytomegalovirus infection in combination with gancyclovir?
- A) Valgancyclovir
  - B) Letermovir
  - C) Famciclovir
  - D) Panciclovir
68. Which one of the following drugs is used for the treatment of acromegaly?
- A) Ganerelix
  - B) Lanreotide
  - C) Oxytocin
  - D) Somatropin
69. Which one of the following drugs decreases TSH without changing free T<sub>4</sub> in levothyroxine treatment?
- A) Metformin
  - B) Rifampin
  - C) Phenytoin
  - D) Carbamazepine

70. Which of the following is the longest acting glucocorticoid?
- A) Hydrocortisone
  - B) Prednisolone
  - C) Dexamethasone
  - D) Triamcinolone
71. Which of the following selective estrogen receptor modulator is used in the treatment of osteoporosis?
- A) Raloxifene
  - B) Tamoxifen
  - C) Toremifene
  - D) Clomiphene
72. Which mineralocorticoid receptor antagonist is useful for the treatment of edema associated with CHF?
- A) Triamterene
  - B) Eplerenone
  - C) Chlorothiazide
  - D) Ethacrynic acid
73. What is the total daily oral dose of the diuretic drug furosemide?
- A) 0.5-2 mg
  - B) 5-20 mg
  - C) 20-80 mg
  - D) 50-100 mg
74. Which one of the following diuretic drugs are correctly matched with their specific target?
- |                       |  |
|-----------------------|--|
| a. Furosemide         | 1. $\text{Na}^+\text{Cl}^-$            |
| b. Benzthiazide       | 2. $\text{Na}^+\text{K}^+\text{2Cl}^-$ |
| c. Dichlorpheniramine | 3. Epithelial $\text{Na}^+$ channel    |
| d. Amiloride          | 4. Carbonic anhydrase                  |
- A) a-2, b-1, c-4, d-3
  - B) a-1, b-2, c-3, d-4
  - C) a-4, b-2, c-1, d-3
  - D) a-2, b-1, c-3, d-4

75. Which of the following is an example of a tocolytic agent -
- A) Oxytocin
  - B) Methargin
  - C) Prostaglandin
  - D) Ritodrine
76. Which one of the following antidiuretic hormone receptors are correctly matched as per their functions?
- |       |                     |
|-------|---------------------|
| a. V1 | 1. Antidiuresis     |
| b. V2 | 2. Vasoconstriction |
| c. V3 | 3. ACTH Release     |
- A) a-1, b-2, c-3
  - B) a-2, b-1, c-3
  - C) a-3, b-1, c-2
  - D) a-2, b-3, c-2
77. A 32 years old male patient had an acute attack of migraine. After taking some medicine he developed bluish discoloration, tingling and numbness in the tip of a finger. Which of the following drug could have possibly caused the above symptoms?
- A) Ergotamine
  - B) Sumatriptan
  - C) Cyclopentolate
  - D) Propranolol
78. A normal bell-shaped distribution is termed as:
- |                |               |
|----------------|---------------|
| A) Platykurtic | B) Mesokurtic |
| C) Leptokurtic | D) Eukurtic   |
79. Which of the following drug is an analogue of PGE1?
- |                |                 |
|----------------|-----------------|
| A) Bimatoprost | B) Epoprostenol |
| C) Latanoprost | D) Misoprostol  |



87. A 28-year-old female was recently diagnosed with schizophrenia and started on typical antipsychotics. She developed features of spasm of face, neck and tongue muscle within 5 days of start of treatment. She was administered diphenhydramine 25 mg IM. Which of the following is proposed mechanism behind her symptoms?
- A) Post-synaptic DA receptor upregulation
  - B) Dopamine antagonism
  - C) Dopamine receptor super sensitivity
  - D) Anti-cholinergic action
88. In the following statements which one is correct for Methylxanthines?
- A) Decreased  $\text{Na}^+/\text{Ca}^{2+}$  exchange
  - B) Facilitates hyperpolarization
  - C) Decrease  $\text{Ca}^{2+}$  activated K channel activation
  - D) Increase PLC-IP3-  $\text{Ca}^{2+}$  pathway activity
89. Which one is long-acting beta 2 agonist used as bronchodilator in asthma?
- A) Terbutaline
  - B) Formoterol
  - C) Procaterol
  - D) Salbutamol
90. A 32-year-old male with asthma had increased muscle tone, flashes of light, insomnia, vomiting and palpitations after taking 30 mg of a drug for asthma. Which of the following drug is possible in causing above symptoms?
- A) Theophylline
  - B) Montelukast
  - C) Ketotifen
  - D) Omalizumab
91. ACE inhibitor which shows metabolism/elimination by both liver and kidney is:
- A) Ramipril
  - B) Trandopril
  - C) Moexipril
  - D) Perindopril



92. Select the correct pair of true/false statements
- I. MESNA can aggravate cyclophosphamide induced haemorrhagic cystitis
  - II. Carboplatin produces more ototoxicity than cisplatin
  - III. Glucarpidase is a potential agent for methotrexate induced toxicities
  - IV. Irinotecan may cause acetylcholinesterase inhibition
- A) I-F II-T III-T IV-F
  - B) I-F II-F III-T IV-T
  - C) I-T II-F III-F IV-T
  - D) I-T II-F III-T IV-F
93. How many participants are usually selected for a phase II clinical trial?
- A) 10-20
  - B) 20-50
  - C) 50-300
  - D) 300-3000
94. The main mechanism of most drug absorption in GI tract is
- A) Active transport (carrier-mediated diffusion)
  - B) Filtration (aqueous diffusion)
  - C) Endocytosis and exocytosis
  - D) Passive diffusion (lipid diffusion)
95. What does the term "bioavailability" mean?
- A) Degree of plasma protein binding
  - B) Permeability through the brain-blood barrier
  - C) Fraction of drugs reaching the systemic circulation
  - D) Amount of a drug in urine relative to the initial dose

96. The dose above which toxic effects are seen is known as
- A) Maximum tolerated dose
  - B) Maximum effective dose
  - C) Intensity of action
  - D) Potency of action
97. Which is the correct Michaelis-Menten equation:
- A)  $v = (V_{max} S)/(K_m + S)$
  - B)  $v = (V_{max} + S)/(K_m + S)$
  - C)  $v = (K_m + S)/(V_{max} S)$
  - D)  $v = (K_m + S)/(V_{max} + S)$
98. Whether prior approval of ethics committee is mandatory for submission of application and obtaining permission from CDSCO to conduct an academic clinical trial?
- A) Yes, for all the trials
  - B) Yes, only for placebo-controlled trials
  - C) Yes, for pharmacokinetic studies
  - D) No
99. Which of the following are the most common dose-related adverse effects requiring dosage adjustment of phenytoin?
- A) Weight gain and dizziness
  - B) Diplopia and ataxia
  - C) Nystagmus and hypotension
  - D) Hypotension and parasthesias
100. A 35-year-old woman with fatigue, lethargy, cold intolerance, constipation and weight gain is taking certain medications to treat this condition. Which of the following drug will be helpful in this scenario.
- A) Propylthiouracil
  - B) Levothyroxine
  - C) Methimazole
  - D) Prednisolone

