



JAMMU AND KASHMIR PUBLIC SERVICE COMMISSION

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Subject: Conduct of Written Examination for the post of Soil Conservation Assistant/Photo Interpreter in Forest, Ecology & Environment Department - Provisional Answer Key thereof.

Notification No. PSC/Exam/S/2024/34

Dated: 21.06.2024

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 **Paper I - General Knowledge** and **Paper II – Optional (Agriculture, Agriculture Engineering and Botany)** of **Question Booklet (Series A)** pertaining to the written examination for the post of **Soil Conservation Assistant/Photo Interpreter** held on **21.06.2024** in two sessions, is hereby notified for seeking the objections from candidates.

Provisional Answer Key

Paper I – General Knowledge

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

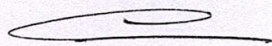
Test Booklet Question No. (Series A)	
Q13	D
Q14	B
Q15	C
Q16	A
Q17	B
Q18	D
Q19	C
Q20	A
Q21	C
Q22	A
Q23	D
Q24	B

Test Booklet Question No. (Series A)	
Q25	D
Q26	C
Q27	A
Q28	B
Q29	A
Q30	B
Q31	C
Q32	D
Q33	A
Q34	B
Q35	C
Q36	D

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

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

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

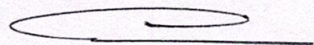


Provisional Answer Key
Paper II – Optional (Agriculture)

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

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

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



Provisional Answer Key

Paper II – Optional (Agriculture Engineering)

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

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

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

Provisional Answer Key
Paper II – Optional (Botany)

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

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

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

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 24.06.2024 to 26.06.2024. **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 26.06.2024 (Wednesday), 05.00 pm.**

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

21.06.2024
(G.L Sharma), JKAS

Additional Secretary

J&K Public Service Commission

Dated: 21.06.2024

No. PSC/Ex-Secy/2024/27

Copy to the: -

1. Director, Information and Public Relations, 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 Examination for the post of Soil Conservation Assistant/Photo Interpreter in Forest, Ecology & Environment Department held on 21.06.2024

(NOTE: USE SEPARATE FORMS FOR SEPARATE QUESTIONS)

Paper: _____

Name of the Applicant : _____

Roll No. : _____

Correspondence Address : _____

Contact/Mobile No. : _____

Date of Application: _____ .06.2024

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)

Correct Answer/Option as per candidate :

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. **205113**

Test Booklet Series

TEST BOOKLET
SOIL CONSERVATION ASSISTANT/PHOTO
INTERPRETER
GENERAL KNOWLEDGE
Written Test - 2024
(90)

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

(90) (A)/2024

[P.T.O.]

ALLIUS

(90) (A)

(2)

1. Consider the following categories of land area in India.

1. Land with Dense Scrub
2. Land with Open Scrub
3. Shifting Cultivation - Current Jhum
4. Shifting Cultivation - Abandoned Jhum

Which of the above land area is/are categories of wasteland in India?

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

2. Which of the following is the most significant process of desertification/land degradation in India?

- A) Vegetative Degradation
- B) Water Erosion
- C) Wind Erosion
- D) Urbanisation

3. Which of the bellow species under Species Recovery Programme is incorrectly matched with the area of Protection?

Consider the following pairs.

<i>Species</i>		<i>Area of Protection</i>
A. Jerdon's Courser	-	Andhra Pradesh
B. Batagur Baksa	-	West Bengal
C. Edible Nest Swiftlets	-	Kerala
D. Sangai Deer	-	Manipur

4. Which of the following arrangements (from east to west) of the bellow given dams is **correct**?

- i. Rihand Dam
- ii. Konar Dam
- iii. Panchet Dam
- iv. Tilaiya Dam

Arrange the following Dams from East to West direction.

- A) iii - ii - iv - i
- B) ii - iv - i - iii
- C) iv - i - iii - ii
- D) i - ii - iii - iv

5. Pama Dabi, a type of Slash and Burn Agriculture, is practised in which state of India?

- A) Mizoram
- B) Arunachal Pradesh
- C) Odisha
- D) Andhra Pradesh

6. Consider the following pairs.

<i>S. No.</i>	<i>Mineral</i>	<i>Location</i>
1.	Mica	Nellore
2.	Quartz	Balaghat
3.	Manganese	Nagpur
4.	Iron Ore	Koraput

Which of the above given pairs are **correctly** matched?

- A) 2 and 4 only
- B) 1 and 4 only
- C) 2 and 3 only
- D) 1 and 3 only

7. which of the following places is **not** famous for silk textile industry?

- A) Bankura
- B) Wardha
- C) Anantnag
- D) Belagavi

8. Which of the following state has largest National Highway (NH) length as of 31st December, 2022.

- A) Maharashtra
- B) Uttar Pradesh
- C) Rajasthan
- D) Madhya Pradesh

9. Consider the following statements.

- i. The Satpura range is formed by a series of scarped plateaus on the south, generally at an elevation varying between 900-1100 m above the mean sea level.
- ii. The extension of the Peninsular plateau can be seen as far as Jaisalmer in the West, where it has been covered by the longitudinal sand ridges and barchans.
- iii. The general elevation of the Central Highlands ranges between 700-1,000 m above the mean sea level and it slopes towards the north and northwestern directions.

Which of the above given statements regarding Central Highlands is/are **incorrect**?

- A) i and ii only
- B) ii and iii only
- C) i and iii only
- D) i, ii and iii

10. Arrange the following Hills from North to South direction.

- i. Patkai Bum
- ii. Abor Hills
- iii. Rengma Hills
- iv. Khasi Hills

Which of the following is the correct arrangement of the above given hills from North to South Direction.

- A) i - iii - ii - iv
- B) ii - i - iii - iv
- C) iii - ii - iv - i
- D) i - ii - iv - iii

11. Tila, Seti and Beri are the tributaries of which of the following river?

- A) Ramganga
- B) Gandak
- C) Mahananda
- D) Ghaghara

12. Consider the following statements.

- i. In Jammu and Kashmir, more than 80 percent of use of all the water bodies are for domestic and drinking purposes.
- ii. More than 3 percent of all the enumerated water bodies in Jammu and Kashmir are located in Urban areas.
- iii. According to 1st water bodies census in Jammu and Kashmir, 48.6% are privately owned whereas the remaining 51.4% are under public ownership.
- iv. In the State of Jammu & Kashmir, there are 3,519 natural and 6246 man-made water bodies.

Which of the above given statements are **correct**?

- A) iii and iv only
- B) i and ii only
- C) ii and iii only
- D) i and iv only

13. Consider the following statements about River Brahmaputra.

- i. The Brahmaputra, one of the largest rivers of the world, has its origin in the Chemayungdung glacier of the Kailash range near the Man Sarovar lake.
- ii. The Rango Tsangpo is the major left bank tributary of this river in Tibet.
- iii. It enters India, east of Sadiya town in Arunachal Pradesh.
- iv. Its major left bank tributaries are the Burhi Dihing and Dhansari (South) whereas the important right bank tributaries are the Subansiri, Kameng, Manas and Sankosh.

Which of the above given statements regarding Brahmaputra River are **correct**?

- A) i and ii only
- B) ii and iii only
- C) iii and iv only
- D) iv and i only

14. Which of the following district does **NOT** have arsenic hot spots?
- Jammu
 - Udhampur
 - Kathua
 - Rajouri
15. Which of the following is **NOT** a classification of springs based on geo-hydrological conditions?
- Contact Spring
 - Fracture Spring
 - Gravitational Spring
 - Depression Spring
16. Consider the following statements.
- The monsoon enters West Bengal and Bangladesh from south and southeast instead of from the south-westerly direction.
 - Arakan Hills along the coast of Myanmar deflect a big portion of Bay of Bengal Monsoon branch towards the Indian subcontinent.
 - After entering the Indian subcontinent, this branch splits into two under the influence of the Himalayas and the thermal high is northwest India.
- Which of the above given statements are correct?
- i and ii only
 - ii and iii only
 - i and iii only
 - i, ii and iii only
17. Consider the following pairs.
- | <i>S. No.</i> | <i>Forest Type</i> | <i>Vegetation</i> |
|---------------|---------------------------|-------------------|
| 1. | Moist deciduous forests | Sandalwood |
| 2. | Tropical thorn forests | Wattle |
| 3. | Dry deciduous forest | Neem |
| 4. | Southern mountain forests | Rosewood |
| 5. | Tropical evergreen forest | Aini |
- Which of the above given pair are incorrect?
- 1, 3 and 4 only
 - 2, 3 and 4 only
 - 1 and 5 only
 - 2 and 5 only
18. Which of the following state produces highest renewable energy by small hydro power plants?
- Himachal Pradesh
 - Uttarakhand
 - Maharashtra
 - Karnataka

19. Which of the following forest type has the highest area among different forest types in Jammu and Kashmir?

- A) Northern Dry Mixed Deciduous Forest
- B) Lower or Siwalik chir Pine Forest
- C) Western Mixed Coniferous Forest
- D) Low level Blue Pine Forest

20. Consider the following pairs.

<i>S. No.</i>	<i>Geographical Indication (GI)</i>	<i>State</i>
1.	Sadeli Craft	Maharashtra
2.	PaniMeteka Craft	Assam
3.	Tharu Embroidary	Manipur
4.	Tangsa Textile Product	Arunachal Pradesh

Which of the above given pairs are **INCORRECT**?

- A) 1 and 3 only
- B) 2 and 4 only
- C) 2 and 3 only
- D) 1 and 4 only

21. Consider the following pairs.

<i>S. No.</i>	<i>Particularly Vulnerable Tribal Groups</i>	<i>State</i>
1.	Totos	Manipur
2.	Padhar	Gujarat
3.	Maria Gond	Madhya Pradesh
4.	Irular	Kerala

Which of the above given pair are incorrect?

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

22. Which of the following state has more than one Ramsar wetland sites?

- A) Haryana
- B) Bihar
- C) Assam
- D) Andhra Pradesh

23. Which of the following Elephant reserves is largest in terms of area?

- A) Mysuru
- B) Siwalik
- C) Kaziranga-Karbi Anglong
- D) Singhbhum

24. Consider the following statements.

- i. Sex Ratio of total Population of Jammu and Kashmir has decreased from 971 during NFHS-4 period (2015-16) to 948 during NFHS-5 (2019-20) period.
- ii. The literacy rate of women (aged 15-49) in urban areas of Jammu and Kashmir is less than 80 percent according to NFHS-5 report.
- iii. The literacy rate of men (aged 15-49) in rural areas of Jammu and Kashmir is more than 90 percent according to the NFHS-5 report.
- iv. Total fertility rate of women in Jammu and Kashmir has decreased from 2.0 during NFHS-4 period (2015-16) to 1.6 during NFHS-5 period (2019-20).

Which of the above given statements are **correct**?

- A) ii and iv only
- B) i and iii only
- C) iii and iv only
- D) i and ii only

25. Consider the following statements.

- i. Mon-Khmer is branch of language that belong to the Sino-Tibetan family of Indian languages.
- ii. Mon-Khmer branch of languages is spoken in states of Nagaland, Manipur, Mizoram and Tripura.
- iii. Austro-Nesian sub family of language has speech areas in the Andaman and Nicobar Islands.
- iv. Munda branch of languages belong to the Austro-Asiatic sub family of languages which have speech areas in Assam, West Bengal and Maharashtra.

Which of the above given statements are **incorrect**?

- A) iii and iv only
- B) ii, iii, and iv only
- C) i and ii only
- D) i, ii and iii only

26. Which of the following scholars is **NOT** associated with the nebular hypothesis of origin of Earth?
- A) Carl Weizascar
 - B) Pierre Simon Laplace
 - C) Abbe Georges Lemaitre
 - D) Otto Schmidt
27. Consider the following statements.
- i. Cocos Plate shares eastern boundary with the Caribbean Plate.
 - ii. The North American Plate and Cocos Plate share subduction sites between them.
 - iii. Cocos Plate shares boundary with minor plates such as Rivera Plate and Galapagos Plate.
 - iv. Cocos Plate and Nazca plate share subduction sites between them.
- How many of the above given statements is/are **incorrect**?
- A) i only
 - B) ii only
 - C) iii only
 - D) All four
28. Conrad Discontinuity separates which of the following layers of the Earth?
- A) Lithosphere and Asthenosphere
 - B) Upper Crust and Lower Crust
 - C) Upper Mantle and Lower Mantle
 - D) Outer Core and Inner Core
29. Which of the following statements is correct about Lapolith?
- A) It is a lava intrusion that develops into a saucer shape, concave to the sky.
 - B) It is a wavy mass of intrusive rocks, at times, is found at the base of synclines or at the top of anticline in folded igneous country.
 - C) These are large dome-shaped intrusive bodies with a level base and connected by a pipe-like conduit from below.
 - D) It is a wall like structure that forms because of the solidification of lava in the fissures and cracks that develop in the land.
30. Which of the following is correct average depth of oceans?
- A. ~ 3100 metre
 - B. ~ 3700 metre
 - C. ~ 3900 metre
 - D) ~ 3300 metres

31. Consider the following statements.
- I. Rhyolitic lava flow tends to accumulate either in a dome-like mass, called a lava dome, above the vent or in short and bulbous flows.
 - II. Rhyolitic lava flow is most silicic and the coolest of lava flows.
- Which of the following is correct regarding the above statements.
- A) Statement I is correct and Statement II is incorrect.
 - B) Statement II is correct and Statement I is incorrect.
 - C) Statement I and II are both correct and statement II is correct explanation of Statement I.
 - D) Statement I and II are both correct but statement II is not the correct explanation of statement I.
32. Guaiba River which experienced devastating flood in May, 2024 is in which country?
- A) Paraguay
 - B) Uruguay
 - C) Argentina
 - D) Brazil
33. Tanami desert is located in which country?
- A) Australia
 - B) United States of America
 - C) Algeria
 - D) Mauritania
34. Italy and Albania are separated by which of the following straits?
- A) Strait of Messina
 - B) Strait of Otranto
 - C) Strait of Bonifacio
 - D) Strait of Belle Isle
35. Which of the following is **NOT** a feature of Karst landscape?
- A) Karren
 - B) Grikes
 - C) Reigel
 - D) Clints
36. Consider the following statements.
- I. A glacier on its way down the valley leaves behind circular hollows in the heads of the valley up in the mountains. Such armchair shaped hollows are known as corries.
 - II. The depressions in the outwash plain left by the melting of masses of stagnant ice Rock-hollow lakes.
- Which one of the following is correct regarding above given statements?
- A) Both statements I and II are correct.
 - B) Both statements I and II are incorrect.
 - C) Statement I is incorrect and statement II is correct.
 - D) Statement I is correct and statement II is incorrect.

37. Consider the following statements.

- I. Lag deposits are concentration of coarser material like sand and dust-sized particles which are deposited by deflation.
- II. Barchan dunes develop where the wind direction is constant but the sand supply is limited.

Which one of the following is correct regarding above given statements?

- A) Both statements I and II are correct.
- B) Both statements I and II are incorrect.
- C) Statement I is incorrect and statement II is correct.
- D) Statement I is correct and statement II is incorrect.

38. Which of the following is not an agent of Marine erosion?

- A) Hydraulic Action
- B) Deflation
- C) Attrition
- D) Corrasion

39. Consider the following ports.

- i. Sevastopol Port
- ii. Port of Odessa
- iii. Mariupol Port
- iv. Port of Kerch

Which of the following arrangements of above given ports from east to west direction is correct?

- A) ii - iii - i - iv
- B) i - iv - iii - ii
- C) iii - iv - i - ii
- D) iv - i - ii - iii

40. Which of the following clouds form in sinking air?

- A) Pileus clouds
- B) Lenticular clouds
- C) Nacreous clouds
- D) Mammatus clouds

41. Consider the following statements regarding the Oxford-AstraZeneca COVID-19 vaccine.

1. This is an mRNA type of vaccine
2. This uses an adenovirus vector
3. This contains a protein subunit
4. This is based on a weakened form of the virus

Which of the statement(s) given above is/are correct?

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

42. Greenwashing is described correctly by which of the following statements?
- A) The process of cleaning algae from water bodies
 - B) A marketing strategy where companies falsely claim to be environmentally friendly
 - C) The technique to improve the efficiency of solar panels
 - D) A term used in organic farming
43. Which famous language model was recently developed by Open AI?
- A) GPT-4
 - B) TensorFlow
 - C) PyTorch
 - D) BERT
44. In Generative AI, the term 'Latent Space' refers to:
- A) A storage space for data
 - B) An intermediate representation of data learned by a model
 - C) A virtual reality space
 - D) The space used for data transmission
45. Which of the following is/are the common ways to produce hydrogen gas in a fuel cell?
- 1. Coal and biomass gasification
 - 2. Electrolysis and absorption
 - 3. Steam reforming and electrolysis
 - 4. Electromagnetism and steam reforming
- A) 2 only
 - B) 3 only
 - C) 2 and 3 only
 - D) 2, 3 and 4 only
46. Which of the following is **NOT** correctly matched?
- 1. Aarhus Convention: 1988
 - 2. Basel Convention: 1989
 - 3. Barcelona Convention: 1976
 - 4. Vienna Convention: 1975
- A) 1 and 2 only
 - B) 3 and 4 only
 - C) 1 and 4 only
 - D) 2 and 4 only
47. Which of the following describes the primary purpose of 'discriminator' in creating deepfakes?
- A) To generate fake content
 - B) To create realistic images
 - C) To check the authenticity of the output
 - D) To enhance image resolution

48. Which of the following is/are termed as datafication?
1. The process of converting data into a visual format
 2. The practice of collecting and analysing data for decision-making
 3. The transformation of various aspects of life and activities into data
 4. The use of data encryption techniques
- A) 1 only
B) 3 only
C) 1,3 and 4 only
D) All of these
49. With reference to the climate phenomenon "EL Nino", which of the statement(s) is/are correct?
1. It is characterized by abnormal warming of sea surface temperatures in the central and eastern tropical Pacific Ocean.
 2. Increased rainfall occurs in the western Pacific (Indonesia, Australia) and decreased rainfall in the eastern Pacific (Peru, Ecuador).
- Select the answer using the code given below.
- A) Only 1
B) Only 2
C) Both 1 and 2
D) Neither 1 nor 2
50. Deficiency of a specific vitamin results in scurvy. Who among the following is/are most likely to develop this?
1. A pregnant woman
 2. A malnourished child
 3. A long-time alcoholic
 4. A person with the eating disorder anorexia nervosa
- A) 1 and 2 only
B) 3 only
C) 2 and 4 only
D) 4 only
51. Which of the following has reached the end of its mission as confirmed by the Indian Space Research Organisation (ISRO)?
- A) Aditya L-1
B) Gaganyaan
C) TeLEOS-2
D) Mangalyaan

52. Hepatitis refers to an inflammatory condition of the liver. Which of the following is/are spread(s) through contaminated water?
1. Hepatitis A
 2. Hepatitis B
 3. Hepatitis C
 4. Hepatitis E
- A) 1 and 2 only
B) 2 and 3 only
C) 1 and 4 only
D) 3 and 4 only
53. Tuberculosis (TB) is a serious infectious disease caused by the bacterium, *Mycobacterium tuberculosis*. Which of the following drugs used in combination to combat Tuberculosis?
1. Primaquine, Doxycycline
 2. Pyrazinamide, Ethambutol
 3. Cefalexin, Tobramycin
 4. Isoniazid, Rifampicin
- A) 1 and 2
B) 2 and 3
C) 2 and 4
D) 3 and 4
54. Solar storms, also known as space weather events, can have significant impacts on Earth. With reference to these phenomena, which of the following statement(s) is/are correct?
1. The geomagnetic waves released by solar storms can destroy power grids
 2. Solar storms create the Northern and Southern Lights
- Select the answer using the code given below.
- A) Only 1
B) Only 2
C) Both 1 and 2
D) Neither 1 nor 2
55. Tulsi (*Ocimum sanctum*) is a remarkable herb with a rich history in traditional medicine. It is rightly called the 'Queen of Herbs' due to its numerous health benefits. Which of the following active component of Tulsi responsible for its characteristic aroma?
- A) Menthol
B) Allicin
C) Nimbosterol
D) Eugenol
56. Xylem in plants consists of
- A) Tracheids, vessels, fibers and parenchyma
B) Tracheids, vessels and companion cells
C) Tracheids, fibers and parenchyma
D) Tracheids, vessels, sieve cells and companion cells

57. The greenhouse gas having the highest Global Warming Potential (GWP) per molecule is,
- Carbon dioxide (CO_2)
 - Methane (CH_4)
 - Nitrous oxide (N_2O)
 - Sulfur hexafluoride (SF_6)
58. Consider the following pairs:
- | | |
|--|------------|
| 1. Institute of Bioinformatics and Applied Biotechnology | :Pune |
| 2. National Institute of Science Education and Research | :Bangalore |
| 3. Indian Institute of Chemical Technology | :Hyderabad |
| 4. National Physical Laboratory | :Ahmedabad |
- Which of the pairs given above are correctly matched?
- 1 and 2 only
 - 1 and 3 only
 - 2 and 4 only
 - 3 and 4 only
59. What innovative approach has Project HIMANK experimented with in road construction?
- Constructing floating bridges
 - Using plastic roads made from waste materials
 - Building tunnels through mountain ranges
 - Developing solar-powered roads
60. The timeline set for achieving the targets by the Kunming-Montreal Global Biodiversity Framework (GBF) is
- 2025
 - 2030
 - 2040
 - 2050
61. Consider the following statements with reference to India's satellite launch vehicles:
- PSLVs launch satellites useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites
 - Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location on Earth
 - GSLV Mk III is a four-staged launch vehicle with the first and third stages using solid rocket motors and the second and fourth stages using liquid rocket engines
- Which of the statements given above is/are correct?
- 1 only
 - 2 only
 - 1 and 2 only
 - 2 and 3 only

62. Consider the following statements:
1. Acidic soils exhibit reduced rate of decomposition of soil organic material
 2. After a long run of acid rain, microbial species in the soil and water may shift from bacteria-bound to fungi-bound
 3. Most Blue-green bacteria prefer an acidic environment.
- Which of the above statements is/are correct?
- A) 1 and 2 only
 - B) 2 only
 - C) 1 and 3 only
 - D) All of the above
63. Consider the following rivers.
1. Bhareli, Kopili and Ong
 2. Dibang, Kameng and Dihing
 3. Manas, Sankosh and Torsa
 4. Subansiri, Lohit and Teesta
- Which of the above are tributaries of river Brahmaputra?
- A) 1 and 2 only
 - B) 2 and 4 only
 - C) 1 and 3 only
 - D) 2, 3 and 4 only
64. Laterite soil is primarily rich in which of the following?
- A) Nitrogen
 - B) Iron and aluminium
 - C) Organic matter
 - D) Calcium carbonate
65. Consider the following pairs:
- | | |
|--------------------|---------------|
| 1. Cholamu Lake | : Manipur |
| 2. Rudrasagar Lake | : Karnataka |
| 3. Ansupa Lake | : West Bengal |
| 4. Nanda Lake | : Goa |
- Which of the pairs given above are correctly matched?
- A) 1 and 3 only
 - B) 1 and 4 only
 - C) 2 and 3 only
 - D) 3 and 4 only
66. Muons are unstable sub-atomic particles belong to which of the following particle groups?
- A) Hadrons
 - B) Mesons
 - C) Leptons
 - D) Baryons

67. Which of the following has the primary role of Azolla as a biofertilizer?
- Enhancing phosphorus availability
 - Fixing atmospheric nitrogen
 - Improving soil pH
 - Increasing potassium content
68. Consider the following National Parks:
- Bandipur National Park
 - Valmiki National Park
 - Manas National Park
 - Gir National Park
- Which of the above include Tiger Reserves within them?
- 1 only
 - 1 and 4 only
 - 1, 2 and 3 only
 - All of the above
69. Consider the following statements with reference to Green Credit Scheme:
- Under this scheme, carbon credits can be sold and bought domestically
 - The green credits will be tradable and those earning it will be able to put these credits up for sale on a proposed domestic market platform.
- Select the correct statement using the codes given below:
- Only 1
 - Only 2
 - Both 1 and 2
 - Neither 1 nor 2
70. Consider the following statements regarding "Carbon Offset":
- Carbon Offsets are credits for reductions in greenhouse gas emissions
 - Carbon Offsets are quantified and sold in metric tonnes of carbon dioxide equivalent
- Select the correct statement using the codes given below:
- Only 1
 - Only 2
 - Both 1 and 2
 - Neither 1 nor 2
71. What is the main goal of COP27?
- To limit global average temperature increase to 1.5°C
 - To achieve net-zero emissions by 2050
 - To promote renewable energy
 - To address deforestation

72. Whiskers are crystal filaments having exceptional mechanical strength used to reinforce composite structural materials. Which of the following materials are commonly used for whiskers?

- A) Graphite; Silicon carbide
- B) Glass; Boron
- C) Steel; Tungsten
- D) Polymers; Ceramics

73. Consider the following statements:

1. Buckyballs, also known as fullerenes, are fascinating carbon molecules that resemble soccer balls
2. Buckyballs can behave both as particles and waves simultaneously
3. Ashes of dying stars contain buckyballs

How many of the statements given above are correct?

- A) Only one
- B) Only two
- C) All three
- D) None of the above

74. Which one of the following is not a global Satellite Navigation System?

- A) GLONASS
- B) GPS
- C) BeiDou
- D) QZSS

75. The radiant energy of the sun is transmitted in which of the following forms?

- A) Short waves
- B) Long waves
- C) Particles
- D) Radio waves

76. What strategic capability does MIRV technology provide to the Agni-V missile?
- Enhanced accuracy
 - Ability to carry multiple warheads
 - Stealth capability
 - Hypersonic speed
77. With reference to grey hydrogen, consider the following statements:
- Steam methane reforming is commonly used for producing grey hydrogen
 - It is costlier than blue hydrogen
 - It is produced in a climate-neutral manner
- How many of the statements given above are correct?
- Only one
 - Only two
 - All three
 - None
78. Which of the following is **NOT** an insectivorous plant?
- Sundew
 - Nepenthes
 - Butterwort
 - Nyctanthes
79. Which greenhouse gas has the highest global warming potential over a 20-year period?
- Carbon dioxide
 - Methane
 - Nitrous oxide
 - Water vapor
80. The technology commonly used in Ultra Mega Power Plants (UMPPs) for higher fuel efficiency is termed as,
- Subcritical
 - Supercritical
 - Ultra-supercritical
 - Hypercritical
81. Consider the following about constitutional amendments that are concerned with the Anti-defection law of the Constitution of India?
- 52nd Amendment
 - 42nd Amendment
 - 74th Amendment
 - 91st Amendment
- Which of the following statement/statements is/are correct?
- Only 2 is true
 - Only 3 is true
 - Only 1, 2, and 3 are true
 - Only 1 and 4 are true

82. Consider the following with regard to recently signed India-Iran deal on Chabahar port:
- 1) Chabahar is a port of promise to connect India with the Middle East.
 - 2) For the first time, India took over management of a foreign port

Which of the following statement/statements is/are correct?

- A) Only 1 is correct.
- B) Only 2 is correct.
- C) Neither 1 nor 2 is correct.
- D) Both 1 and 2 are correct.

83. Find out the correct statement below:

Assertion (A): Systems that are built by humans and consist of software and potentially also hardware can be referred to as artificial intelligence (AI) systems.

Reasoning (R): Artificial Intelligence as an area of study and practical application emerged in the middle of the twentieth century.

Find the correct one given below:

- A) Both A and R are correct, and R is the correct explanation of A.
- B) A is correct, but R is incorrect.
- C) Both A and R are correct, but R is not the correct explanation of A.
- D) Neither A nor R are correct.

84. Consider the following facts about the well-known Indian Table Tennis player ManikaBatra.

- 1) She has the no.1 rank in Indian Table Tennis
- 2) She is the World No. 4 at present
- 3) She is a Rajiv Gandhi Khel Ratna Awardee
- 4) She has an Olympic gold medal to her credit.

Which of the following statement/statements is/are correct?

- A) Only 1 and 4 are correct.
- B) Only 4 is correct.
- C) Only 1, 2 and 3 are correct.
- D) None of the above.

85. The Scheduled Castes and the Scheduled extent and Tribes (Prevention of Atrocities) Act came into being in the year:

- A) 1950
- B) 1977
- C) 1980
- D) 1989

86. Recently Indian government has appointed Defence Attaché in few foreign countries. Which of the following is correct in this context?

- A) Ethiopia, Ivory Coast and Mozambique
- B) Georgia, Azerbaijan and Turkey
- C) Singapore, Malaysia and Vietnam
- D) Turkmenistan, Kyrgyzstan and Tajikistan

87. Which of the following South Asian country has decided to launch India's RuPay service?
- A) Afghanistan
 - B) Nepal
 - C) Maldives
 - D) Sri Lanka

88. Match List-I with List-II

List-I Military drills

- a. Khanjar
- b. Tarkash
- c. Shakti
- d. Dharma Guardian

List-II Countries Involved

- 1. India-France
- 2. India-Kyrgyzstan
- 3. India-Japan
- 4. India-USA

Find the correct one:

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

89. Consider the following facts concerning Consumer Protection Act passed in 1986 and 2019.

- 1) One of the consumer rights mentioned in the Consumer protection Act 1986 is the right to choose.
- 2) The Consumer protection Act 2019 seeks to protect and promote the consumers' interest through speedy and inexpensive redressal of their grievances.

Which of the following statement/statements is/are correct?

- A) Only 1 is correct.
- B) Only 2 is correct.
- C) Neither 1 nor 2 is correct.
- D) Both 1 and 2 are correct.

90. Which of the following articles of Indian constitution suggests that "the State shall, in particular, direct its policy towards securing that the ownership and control of the material resources of the community are so distributed as best to subserve the common good."

- A) Article 39 (b)
- B) Article 39 (a)
- C) Article 38
- D) Article 37

91. Consider the following facts concerning Indian Actor Anasuya Sengupta who is recently in news.

- 1) She won the national award in the Best Actress category.
- 2) She became the first Indian to win the Best Actress award at the 77th Cannes Film Festival.

Which of the following statement/statements is/are correct?

- A) Only 1 is correct.
- B) Only 2 is correct.
- C) Neither 1 nor 2 is correct.
- D) Both 1 and 2 are correct.

92. Find out the correct statement below:

Assertion (A): The Chief Election Commissioner and Election Commissioners enjoy the same status and receive salary and perks as available to Judges of the Supreme Court of India.

Reasoning (R): In the performance of its functions, Election Commission is insulated from executive interference.

Find the correct one given below:

- A) Both A and R are correct, and R is the correct explanation of A.
- B) A is correct, but R is incorrect.
- C) Both A and R are correct, but R is not the correct explanation of A.
- D) Neither A nor R are correct.

93. Match List I with List II

List I T-20 World Cup Cricket

- a. 2007
- b. 2012
- c. 2014
- d. 2021

List II Winner Country

1. Australia
2. Sri Lanka
3. West-Indies
4. India

Find the correct one:

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

94. Consider the following facts concerning the Electoral Bond Scheme.

- 1) The Government of India had notified the Electoral Bond Scheme in the year 2018.
- 2) Only the Political Parties registered under Section 29A of the Representation of the People Act, 1951 (43 of 1951) and which secured not less than one per cent of the votes polled in the last General Election to the Lok Sabha or the State Vidhan Sabha, shall be eligible to receive the Electoral Bonds.

Which of the following statement/statements is/are correct?

- A) Only 1 is correct.
- B) Only 2 is correct.
- C) Neither 1 nor 2 is correct.
- D) Both 1 and 2 are correct.

(90) (A)

(22)

95. Find out the correct statement below:
Assertion (A): India faces environmental challenges in its agriculture sector.
Reasoning (R): Precision farming optimizes resources and boosts agricultural yields sustainably.
Find the correct one given below:
A) Both A and R are correct, and R is the correct explanation of A.
B) A is correct, but R is incorrect.
C) Both A and R are correct, but R is not the correct explanation of A.
D) Neither A nor R are correct.
96. Consider the following facts concerning India's Coffee exports.
1) India is Asia's largest producer and exporter of coffee.
2) India exports coffee mainly to Italy, Russia, UAE, Germany and Turkey.
Which of the following statement/statements is/are correct?
A) Only 1 is correct.
B) Only 2 is correct.
C) Neither 1 nor 2 is correct.
D) Both 1 and 2 are correct.
97. The first World Intellectual Property Organisation (WIPO) Treaty to address the interface between intellectual property, genetic resources and traditional knowledge and the first WIPO Treaty to include provisions specifically for Indigenous Peoples as well as local communities came into force in
A) 2024
B) 2023
C) 2022
D) 2021
98. The UN General Assembly designated 11 July as the International Day of Reflection and Commemoration of Genocide in which of the following
A) Xinjiang
B) Armenia
C) Srebrenica
D) Haiti
99. Which of the following is **NOT** a Neglected Tropical Disease (NLT)?
A) Chagas disease
B) Soil-transmitted helminthiases
C) Trachoma
D) Tuberculosis
100. The International Day on Biological Diversity is celebrated on
A) 6 June
B) 22 May
C) 24 October
D) 22 April

ROUGH WORK

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(90) (A)

(24)

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Booklet Serial No. **205761**

Test Booklet Series

TEST BOOKLET
SOIL CONSERVATION ASSISTANT/PHOTO
INTERPRETER
AGRICULTURE
Written Test - 2024
(91)

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.
10. **Penalty for wrong answers:**
THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).
 - (i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, **(0.25)** of the marks assigned to that question will be deducted as penalty.
 - (ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.
 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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(91) (A)/2024

[P.T.O.]

SECRET

(91) (A)

(2)

1. Which horticultural practice involves the cultivation of vegetable crops?
 - A) Floriculture
 - B) Olericulture
 - C) Pomology
 - D) Arboriculture

2. Horticulture refers to the cultivation of:
 - A) Fiber crops like cotton and flax
 - B) Medicinal plants
 - C) Fruits, vegetables, and ornamental plants
 - D) Cereal crops like wheat and rice

3. Humic substances comprise of following
 - A) Humic acid
 - B) Fulvic acid
 - C) None of the above
 - D) Both of the above

4. What is the main advantage of using a zero-turn mower on a farm?
 - A) It can mow a larger area in a shorter amount of time.
 - B) It requires less maintenance compared to other mowers.
 - C) It provides better traction on rough terrains.
 - D) It offers higher fuel efficiency.

5. Which stage of the silkworm life cycle is responsible for spinning silk threads to form a cocoon?
 - A) Larva
 - B) Pupa
 - C) Egg
 - D) Adult moth

6. What is the purpose of a combined harvester?
 - A) To harvest grain crops and separate the grain from the straw
 - B) To spread fertilizers evenly on the field
 - C) To transplant seedlings into the soil
 - D) To pick and sort fruits and vegetables

7. What does the term "four-wheel drive" refer to in the context of farm tractors?
- A) The tractor has four wheels for stability.
 - B) All four wheels of the tractor receive power from the engine.
 - C) The tractor is capable of traveling in four different directions.
 - D) The tractor has four different speed settings.
8. When fresh plant residues are added to the soil, they are rich in carbon and poor in _____
- A) Phosphorus.
 - B) Nitrogen.
 - C) Calcium.
 - D) Potassium.
9. Which of the following environmental factors is essential for photosynthesis to occur?
- A) Carbon dioxide (CO_2)
 - B) Oxygen (O_2)
 - C) Ethylene (C_2H_4)
 - D) Nitrogen (N_2)
10. Which of the following is an example of a persistent organic pollutant (POP) often found in agrochemicals that can bioaccumulate in the food chain?
- A) Nitrogen (N)
 - B) Phosphorus (P)
 - C) Glyphosate
 - D) Potassium (K)
11. What is the primary goal of Integrated Pest Management (IPM) in agriculture?
- A) Eliminate all pests from the field using chemical pesticides
 - B) Use biological control methods to manage pest populations
 - C) Maximize crop yield by applying high doses of pesticides
 - D) Reduce the environmental impact of pesticides
12. Which of the following agrochemicals is known to be a greenhouse gas, contributing to global warming when released into the atmosphere?
- A) Insecticides
 - B) Herbicides
 - C) Fungicides
 - D) Nitrogen fertilizers
13. The process of converting milk into cheese is an example of:
- A) Fermentation
 - B) Canning
 - C) Irradiation
 - D) Dehydration

14. What is the primary purpose of a queen excluder in a beehive?
- A) To prevent drones from entering the hive
 - B) To keep worker bees from leaving the hive
 - C) To separate the queen from the rest of the colony
 - D) To prevent the queen from laying eggs in certain parts of the hive
15. Which of the following mites is a significant threat to honeybee colonies, causing a condition known as Varroosis?
- A) Tropilaelaps mite
 - B) Tracheal mite
 - C) Varroa mite
 - D) Acarapis woodi
16. What is the process called when worker bees fan their wings to control the temperature and humidity inside the hive?
- A) Nectar evaporation
 - B) Royal jelly production
 - C) Waggle dance
 - D) Ventilation or fanning
17. In commercial beekeeping, what is the primary purpose of using a smoker when inspecting beehives?
- A) To keep the bees calm and prevent them from stinging
 - B) To attract worker bees to a specific area in the hive
 - C) To control the humidity levels inside the hive
 - D) To produce smoke as a signaling mechanism for bee communication
18. There are 12 soil orders in:
- A) 7th approximation classification
 - B) Marbut system of classification
 - C) Genetical classification
 - D) Soil taxonomy classification
19. What is the process by which a plant develops resistance to a specific pathogen or disease?
- A) Immunization
 - B) Vaccination
 - C) Resistance breeding
 - D) Cross-protection

20. Which of the following food processing techniques involves heating food to a high temperature to kill bacteria and extend shelf life?
- A) Fermentation
 - B) Dehydration
 - C) Pasteurization
 - D) Canning
21. What is the name of the process by which silkworms form cocoons?
- A) Spinning
 - B) Weaving
 - C) Dyeing
 - D) Knitting
22. Which part of the silkworm cocoon is used to obtain silk?
- A) Outer shell
 - B) Inner layer
 - C) Pupal stage
 - D) Larval stage
23. The process of separating young animals from their mothers to provide specific care and feeding is called:
- A) Milking
 - B) Weaning
 - C) Breeding
 - D) Vaccination
24. What is the process of killing the pupae inside the cocoon to obtain continuous silk threads?
- A) Spinning
 - B) Reeling
 - C) Bleaching
 - D) Boiling
25. Which animal production intervention involves the controlled mating of animals to improve desirable traits in the offspring?
- A) Milking
 - B) Feeding
 - C) Vaccination
 - D) Breeding

26. What is the primary factor affecting the quality of silk produced?
- A) Color of the silk thread
 - B) Thickness of the cocoon
 - C) The species of silkworm used
 - D) The age of the silkworm
27. Calculate the water volume required for spraying weedicide in one ha fields if the distance sprayed is 50 m, the width of the -spray swatch is 1.4m and the water required is 2 lt?
- A) 280
 - B) 285
 - C) 290
 - D) 295
28. Excessive use of chemical fertilizers and pesticides can lead to:
- A) Improved soil structure
 - B) Soil salinization
 - C) Decreased soil compaction
 - D) Enhanced microbial activity
29. The bulk density of a soil sample is 1.6 g/cm^3 , and the particle density is 2.5 g/cm^3 . Calculate the total porosity.
- A) 36%
 - B) 45%
 - C) 60%
 - D) 84%
30. What types of topics are covered in agricultural journalism?
- A) Only topics related to crop production and farming
 - B) A wide range of topics including agriculture, food, and rural issues
 - C) Only topics related to animal husbandry
 - D) Only topics related to agricultural machinery and equipment

31. What is the process of separating silk fibers from the cocoon to form silk threads?
- A) Reeling
 - B) Dyeing
 - C) Weaving
 - D) Carding
32. What is the primary goal of plant breeding?
- A) To protect plants from pests and diseases
 - B) To create genetically modified organisms
 - C) To develop improved plant varieties with desirable traits
 - D) To maximize profits for agricultural companies
33. What is hybrid vigor in plant breeding?
- A) The ability of a plant to tolerate extreme weather conditions
 - B) The process of crossing two different plant species
 - C) The superior performance of hybrid offspring compared to their parents
 - D) The genetic modification of plants to express specific traits
34. Why is genetic-diversity important in plant breeding?
- A) It helps to reduce the population of wild plant species.
 - B) It allows for the creation of genetically, identical plant varieties
 - C) It increases the risk of susceptibility to diseases and pests.
 - D) It provides a wider pool of genetic resources for selecting desirable traits.
35. What does Marker-Assisted Selection (MAS) involve in plant breeding?
- A) Selecting plants based on physical appearance and observable traits.
 - B) Modifying plant genes in a laboratory setting.
 - C) Using molecular markers to identify specific genes or traits of interest.
 - D) Breeding plants in isolated environments to prevent cross-pollination.

36. Agricultural journalism involves:
- A) Writing news articles about agriculture
 - B) Criticizing agricultural practices
 - C) Promoting specific agricultural products
 - D) All of the above
37. Suppose rice and rapeseed yields and offered price are 5000 and 600 kg ha⁻¹, and 10 and 30 Rs. kg⁻¹ then calculate the rice and rapeseed equivalent yields (kg ha⁻¹)
- A) 6000; 6600
 - B) 6200; 6400
 - C) 6400; 6600
 - D) 6800; 6600
38. The length of broad crested weir is 50 m and water height above crest is 0.5 m. Assuming the discharge coefficient as 0.60 calculate the discharge rate in m³/sec?
- A) 16.14
 - B) 17.14
 - C) 18.14
 - D) 19.14
39. A wide-ratio of C: N (35: 1) indicates _____ decomposition?
- A) Very high
 - B) High
 - C) Moderate
 - D) Little
40. If the grain yield of control and fertilized plot (N= 25kg/ha) is reported with 3445 and 3645 kg/ha, the calculate the agronomic nitrogen use efficiency in kg/kg?
- A) 5.0
 - B) 6.0
 - C) 7.0
 - D) 8.0

41. A farmer plans to apply 150 kg of nitrogen fertilizer to a rice field. The crop requires nitrogen at different stages: 40% during the vegetative stage, 30% during the reproductive stage, and 30% during the grain-filling stage. How much nitrogen should be applied in the vegetative, reproductive and grain-filling stage?
- A) 60,45,45 kg
 - B) 65,40,45 kg
 - C) 60,50,40 kg
 - D) 55,50 ,45 kg
42. A farmer applies 250 kg of phosphorus-based fertilizer to a field. Due to run off and leaching, 15% of the phosphorus is lost before it can be taken up by the crops. How many kilograms of phosphorus are lost?
- A) 36.5kg
 - B) 37.5kg
 - C) 38.5kg
 - D) 39.5kg
43. A farmer plans to apply 200 kg of potassium to a tomato field, but the selected fertilizer has a potassium content of 50%. How much of this fertilizer should be applied to meet the desired potassium requirement?
- A) 300 kg
 - B) 400 kg
 - C) 500 kg
 - D) 600 kg
44. A farmer wants to create a custom fertilizer blend that contains 15% nitrogen, 15% phosphorus, and 5% potassium. If the farmer wants to make 500 kg of this custom blend, how much (kg) N, P, and K should be added?
- A) 75, 75, 25
 - B) 70, 80, 25
 - C) 80, 70, 25
 - D) 75, 70, 30

45. A pump discharge 60000 lt/hour runs for 8 hours per day. Calculate the area (ha) irrigated by pump if water depth maintained is 6 cm and tubewell runs for 15 days?
- A) 10
 - B) 12
 - C) 14
 - D) 16
46. Which software is commonly used for agricultural system simulation?
- A) Microsoft Excel
 - B) Adobe Photoshop
 - C) AutoCAD
 - D) Any Logic, APSIM, or DSSAT
47. What is the process of grafting in horticulture?
- A) Crossing two different plant species to create a new hybrid
 - B) Transferring pollen from one flower to another
 - C) Joining a scion (desired plant part) onto a rootstock to grow as one plant
 - D) Treating plants with chemicals to control pests
48. Why is genetic diversity important in plant breeding?
- A) It helps to reduce the population of wild plant species.
 - B) It allows for the creation of genetically identical plant varieties.
 - C) It increases the risk of susceptibility to diseases and pests.
 - D) It provides a wider pool of genetic resources for selecting desirable traits.
49. System simulation helps in:
- A) Predicting weather patterns
 - B) Analyzing agricultural policy
 - C) Modeling the interactions between various components in an agricultural system
 - D) Improving livestock management
50. How does participatory plant breeding involve farmers in the process?
- A) Farmers act as observers but do not actively contribute to the breeding process.
 - B) Farmers are responsible for creating new plant varieties independently.
 - C) Farmers collaborate with researchers and other stakeholders in selecting and evaluating plant materials.
 - D) Farmers receive finished plant varieties without any input in the breeding process.

51. What does HACCP stand for in food safety management?
- A) Hazard Analysis and Critical Control Points
 - B) High-Accuracy Cooking and Cleaning Practices
 - C) Health Assessment and Contamination Control Program
 - D) Hygiene and Cross-contamination Control Protocol
52. Which of the following foodborne pathogens is primarily associated with contaminated raw poultry and eggs?
- A) Salmonella
 - B) Escherichia coli (E. coli)
 - C) Listeria monocytogenes
 - D) Staphylococcus aureus
53. What does the term 'cross-contamination' refer to in food safety?
- A) Mixing different ingredients while cooking to enhance flavors
 - B) The transfer of harmful microorganisms from one surface or food to another
 - C) The practice of storing different types of food in the same container
 - D) The process of blending different food items together for consumption
54. Which of the following temperature ranges is considered the "danger zone" for food storage, where bacteria can multiply rapidly?
- A) 0°C to 4°C (32°F to 40°F)
 - B) 5°C to 10°C (41°F to 50°F)
 - C) 15°C to 20°C (59°F to 68°F)
 - D) 25°C to 40°C (77°F to 104°F)
55. What is the purpose of pasteurization in food processing?
- A) To enhance the taste and flavor of food products
 - B) To extend the shelf life of perishable foods
 - C) To remove harmful bacteria and pathogens from food
 - D) To add preservatives to prevent spoilage

56. To reduce weed growth in a soybean field, the farmer plans to use a post emergence herbicide. 3.5 liters per hectare is the suggested application rate. What flow rate (in liters per minute) should the farmer use if his sprayer has a boom width of 10 meters and travels at a speed of 9 km/h?
- A) 0.525 liters
 - B) 0.625 liters
 - C) 0.725 liters
 - D) 0.825 liters
57. A formulation for a herbicide has a 45% active component content. How much herbicide, in kilos, should be used to make 600 litres of spray solution with a 0.7 percent active ingredient concentration?
- A) 400 kg
 - B) 420 kg
 - C) 440 kg
 - D) 460 kg
58. A herbicide has a recommended application rate of 600 grams per hectare for controlling a weed. If the farmer's sprayer delivers 550 liters of water per hectare, what concentration (in grams per liter) should the herbicide be mixed to achieve the recommended application rate?
- A) 1.09
 - B) 1.12
 - C) 1.15
 - D) 1.18
59. A farmer uses a backpack sprayer to apply a post-emergence herbicide in a small vegetable garden. The sprayer's tank capacity is 20 liters. If the herbicide needs to be mixed at a rate of 350 grams per liter, how much herbicide should the farmer weigh and add to the tank?
- A) 5 kg
 - B) 7 kg
 - C) 9 kg
 - D) 11 kg
60. What is the term used to describe the process of producing large numbers of genetically identical plants from a single parent plant using tissue culture techniques?
- A) Macro-propagation
 - B) Clonal propagation
 - C) Polyploidy
 - D) Genetic hybridization.

61. Which plant tissue is commonly used as the explant in micropropagation techniques?
- A) Roots
 - B) Leaves
 - C) Seeds
 - D) Meristems
62. Which landscaping technique involves shaping and pruning trees and shrubs for aesthetic purposes?
- A) Mulching
 - B) Xeriscaping
 - C) Topiary
 - D) Companion planting
63. Which micropropagation method involves the use of a bioreactor or temporary immersion system to enhance plant growth and multiplication?
- A) Temporary Immersion culture (TIC)
 - B) Solid media culture
 - C) Encapsulation
 - D) Grafting
64. Xeriscaping is a landscaping approach that focuses on:
- A) Using only native plant species
 - B) Creating lush, green lawns
 - C) Maximizing water usage for plant growth
 - D) Implementing efficient irrigation systems
65. Which of the following factors should **NOT** be considered when selecting sampling sites for soil analysis?
- A) Soil depth
 - B) Soil color
 - C) Crop type
 - D) Distance from field boundaries

66. Hydroponics is a method of cultivation that involves:
- A) Growing crops in soil without any additional nutrients
 - B) Cultivating crops in water with added nutrients but without soil
 - C) Growing crops using organic fertilizers only
 - D) Planting crops in sandy soil for better drainage
67. Which soil layer typically contains the highest concentration of organic matter and biological activity?
- A) A-horizon (topsoil)
 - B) B-horizon (subsoil)
 - C) C-horizon (parent material)
 - D) R-horizon (bedrock)
68. What is the correct procedure for composite soil sampling?
- A) Mixing equal parts of soil from different depths to create a representative sample
 - B) Collecting multiple soil samples from the same location at different times of the day
 - C) Collecting soil samples from different locations in the field and analyzing them separately
 - D) Taking a single soil sample from the center of the field for analysis
69. In soil analysis, what does CEC stand for?
- A) Carbon Exchange Capacity
 - B) Cation Exchange Capacity
 - C) Coarse Element Concentration
 - D) Clay Estimation Coefficient
70. Which of the following micronutrients is essential for the formation of chlorophyll and is often deficient in alkaline soils?
- A) Iron (Fe)
 - B) Zinc (Zn)
 - C) Copper (Cu)
 - D) Manganese (Mn)

71. In water analysis, what does BOD5 represent?
- A) Biological Oxygen Demand after 5 days
 - B) Biochemical Oxygen Depletion at 5 atm pressure
 - C) Bacterial Organic Decomposition - 5 units
 - D) Biofiltration Organic Digestion at 5°C
72. Which of the following soil orders is characterized by a subsurface accumulation of aluminium and iron oxides, making it highly weathered and infertile?
- A) Alfisols
 - B) Oxisols
 - C) Vertisols
 - D) Ultisols
73. What is the principle behind the “Pressure Bomb” instrument used for plant analysis?
- A) Measuring the turgor pressure in plant cells
 - B) Determining the plant’s water potential
 - C) Estimating the plant’s transpiration rate
 - D) Calculating the plant’s carbon assimilation rate
74. What is the purpose of descriptive statistics?
- A) To make predictions about future events.
 - B) To summarize and describe data.
 - C) To test hypotheses and draw conclusions.
 - D) To establish cause-and-effect relationships.
75. What does the p-value represent in hypothesis testing?
- A) The probability of making a Type I error.
 - B) The probability of making a Type II error.
 - C) The level of confidence in the results.
 - D) The probability of obtaining the observed results by chance alone.

76. In a normal distribution, what percentage of the data falls within one standard deviation from the mean?
- A) 25%
 - B) 50%
 - C) 68%
 - D) 95%
77. Which statistical measure is used to describe the spread or variability of a dataset?
- A) Mean
 - B) Median
 - C) Mode
 - D) Standard deviation
78. In protected cultivation, what is the purpose of using shade nets or screens?
- A) To reduce water consumption
 - B) To protect crops from pests and diseases
 - C) To control the amount of sunlight reaching the plants
 - D) To improve soil fertility
79. When would you use a t-test in statistical analysis?
- A) When comparing the means of two independent groups.
 - B) When analyzing the relationship between two continuous variables.
 - C) When testing for the normality of a dataset.
 - D) When comparing the means of more than two independent groups.
80. What does the term "confidence interval" represent in estimation?
- A) The range of values within which a parameter is likely to fall.
 - B) The probability of obtaining a specific sample mean.
 - C) The margin of error in a hypothesis test.
 - D) The proportion of the population included in the sample.

81. What is the purpose of ANOVA (Analysis of Variance) in statistical analysis?
- A) To test for associations between variables.
 - B) To compare means of multiple groups simultaneously.
 - C) To calculate the correlation coefficient between two variables.
 - D) To analyze the frequency distribution of categorical data.
82. Agricultural heritage sites may include:
- A) High-rise buildings
 - B) Industrial factories
 - C) Traditional farms and barns
 - D) Shopping malls
83. What is the main difference between correlation and causation?
- A) Correlation refers to a cause-and-effect relationship, while causation represents a simple association between variables.
 - B) Correlation involves two variables changing in tandem, while causation implies that one variable directly influences the other.
 - C) Correlation is measured using the mean of the dataset, while causation is calculated using the median.
 - D) Correlation is a type of descriptive statistics, while causation is a type of inferential statistics.
84. In humans, the sex chromosomes of a male are represented as:
- A) XY
 - B) XX
 - C) XZ
 - D) YZ

85. Which of the following is a key challenge in rainfed agriculture watershed management?
- A) Overabundance of water resources
 - B) Soil erosion and land degradation
 - C) Excessive use of chemical fertilizers
 - D) High availability of surface water
86. Soil acidity is measured using the:
- A) Cation Exchange Capacity (CEC)
 - B) Soil organic matter content
 - C) Soil texture
 - D) Soil pH
87. The water holding capacity of humus is _____ silicate clays.
- A) More than
 - B) Less than .
 - C) Equal to
 - D) None of above
88. Which crop is commonly grown in rainfed agriculture due to its ability to withstand periods of water scarcity?
- A) Rice
 - B) Wheat
 - C) Cotton.
 - D) Millet
89. Find out the rice land productivity tons per ha if the filled grain weight is 0.015g; grain per panicle is 200 and the number of panicles/m² is 200, respectively.
- A) 8
 - B) 6
 - C) 7
 - D) 9

90. A soil has a particle density of 2.65 g/cm^3 and a porosity of 40%. Calculate its bulk density in g/cm^3 ?
- A) 1.59 g/cm^3
 B) 2.59 g/cm^3
 C) 1.69 g/cm^3
 D) 2.69 g/cm^3
91. Calculate the total pore space in a soil sample with a volume of 500 cm^3 , bulk density of 1.2 g/cm^3 , and particle density of 2.70 g/cm^3 ?
- A) 750 cm^3
 B) 800 cm^3
 C) 850 cm^3
 D) 900 cm^3
92. Find out the gravimetric moisture content of soil in percentage if mass of dry soil (M_{ds}) and water (M_w) is 61.0 and 12.1 g, respectively?
- A) 17.84
 B) 18.84
 C) 19.84
 D) 20.84
93. Find out the apparent specific gravity (ASG) of soil if dry bulk density is 1.80 g/cc .
- A) 1.60
 B) 1.70
 C) 1.80
 D) 1.90
94. Calculate the amount of urea, SSP, and MOP that need to be applied in 7.5 acres for supplying 60 kg N, 20 kg P_2O_5 , and 40 kg K_2O per ha?
- A) 396.6 kg Urea; 378 kg SSP and 204.4 kg MOP
 B) 392.6 kg Urea; 375 kg SSP and 202.4 kg MOP
 C) 398.6 kg Urea; 376 kg SSP and 200.4 kg MOP
 D) 390.6 kg Urea; 375 kg SSP and 200.4 kg MOP

(91) (A)

(20)

95. How much ammonium sulfate needs to be applied for supplying 50 kg N/ha at an area of 2000 m²?
- A) 50
B) 55
C) 60
D) 65
96. The yield of wheat is 3.5 tons per hectare. Express the yield in kilograms per square meter?
- A) 3500
B) 3600
C) 3700
D) 3800
97. What is the fertilizer recommendations for an area of 0.5 ha in terms of urea, DAP and MOP if fertilizer rates kept as 40-10-10 N, P, K kg/ha?
- A) 49.7 kg urea, 67.4 kg DAP and 20 kg MOP
B) 50.7 kg urea, 72.4 kg DAP and 22 kg MOP
C) 52.7 kg urea, 70.4 kg DAP and 20 kg MOP
D) 49.7 kg urea, 68.4 kg DAP and 21 kg MOP
98. Calculate the osmotic potential of soil solution if its EC is 3 dS/m?
- A) -1101.6
B) -1103.6
C) -1105.6
D) -1107.6
99. Calculate the apparent recovery efficiency of N if the control plot (0kg/ha) and fertilized plot (25 kg N/ha) are observed with grain yields of 35.85 and 41.20 kg/ha followed by straw yields of 15.88 and 18.20 kg/ha.
- A) 32.68
B) 31.68
C) 30.68
D) 29.68

100. Find out the seed requirement of a Black gram in 100 ha with the following dimensions

- a) Spacing: 30 cm * 30 cm
 - b) Test weight: 50 g
 - c) Germination % age: 90
 - d) Purity % age: 95
- A) 19.49
 - B) 20.49
 - C) 21.49
 - D) 22.49

ROUGH WORK

ROUGH WORK

REAL

(91) (A)

(24)

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Test Booklet Series

**TEST BOOKLET
SOIL CONSERVATION ASSISTANT/PHOTO
INTERPRETER
AGRICULTURE ENGINEERING
Written Test - 2024
(92)**

A

Time Allowed: Two Hours

Maximum Marks: 100

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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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(92) (A)/2024

[P.T.O.]

1. The diameter (inches) of Symon's non-recording rain gauge is
 - A) 12.7
 - B) 5.0
 - C) 6.7
 - D) 8.7

2. The return period (of rain) for design of bunds and terraces is taken as
 - A) 25 years
 - B) 50 Years
 - C) 10 years
 - D) 100 Years

3. The flood discharge adopted for design of hydraulic structure is called
 - A) Design flood
 - B) Probable maximum flood
 - C) Peak flood
 - D) All of the above

4. The coefficient of discharge of orifice is taken as
 - A) 0.62
 - B) 0.98
 - C) 0.80
 - D) 0.85

5. Normally, the grade of grassed waterway should not exceed by:
 - A) 2%
 - B) 5%
 - C) 8%
 - D) 10%

6. The vertical distance between two successive bench terraces is
- A) Equal to the depth of cut
 - B) Twice of the depth of cut
 - C) Square of the depth of cut
 - D) Thrice of the depth of cut
7. The measure of soil susceptibility to detachment and Transportation of soil particles is known as
- A) Erosivity
 - B) Erodibility
 - C) Rainfall intensity
 - D) Kinetic energy
8. The contour trenching is used for the slope of
- A) 6-33%
 - B) 12-26%
 - C) up to 33%
 - D) more than 33%
9. If the length of slope is increased twice, then the soil loss will be increased by
- A) 1.4 times
 - B) 4 times
 - C) 16 times
 - D) 32 times
10. The side slope of graded bund in a sandy soil is kept as
- A) 1:1
 - B) 1.5:1
 - C) 2:1
 - D) 3:1

11. The spillway which provides temporary storage is
- A) Drop inlet spillway
 - B) Chute spillway
 - C) Drop spillway
 - D) Ogee spillway
12. The downward flow of water from the surface into the soil is called
- A) Infiltration
 - B) Seepage
 - C) Percolation
 - D) Lateral flow
13. As per Indian standard recommendation for hilly areas, one rain gauge station should be for the area of
- A) 260-390 km²
 - B) 395-450 km²
 - C) 450-550 km²
 - D) 600-650 km²
14. In Thiessen polygon method, the weighing factor is defined as
- A) Area of polygon/area of watershed
 - B) Area of watershed/area of polygon
 - C) Annual rainfall/point rainfall
 - D) Point rainfall/annual rainfall
15. One hectare area is equal to
- A) 100 m²
 - B) 1000 m²
 - C) 10,000 m²
 - D) 1,00,000 m²

16. Gunter's chain is named after
- A) Robert Gunter
 - B) Edmund Gunter
 - C) David Gunter
 - D) Thomas Gunter
17. The length of each link in a Metric chain is
- A) 10 cm
 - B) 20 cm
 - C) 30 cm
 - D) 40 cm
18. Which is not a method of laying out right angles?
- A) Three-Four-Five Method
 - B) One-Two-Three Method
 - C) Chord Method
 - D) Semi-Circle Method
19. The longest chain line in a chain surveying is called:
- A) Base line
 - B) Tie line
 - C) Check line
 - D) Proof line
20. Which is not a method to compute the area from field notes in surveying?
- A) Trapezoidal rule
 - B) Simpson's rule
 - C) Mid-ordinate rule
 - D) Thompson's rule

21. In plane table surveying, plumb bob hangs from:

- A) Alidade
- B) Compass
- C) Spirit level
- D) U-fork

22. Which is not a method of plane table surveying?

- A) Radiation
- B) Intersection
- C) Traversing
- D) Reversing

23. Which is not a type of levelling instrument?

- A) Hand level
- B) Dumpy level
- C) Farm level
- D) Plane level

24. Which is not a type of meridian?

- A) True meridian
- B) False meridian
- C) Assumed meridian
- D) Magnetic meridian

25. Invar tapes are made of an alloy of

- A) 36% Nickel and 64% Steel
- B) 64% Nickel and 36% Steel
- C) 26% Nickel and 74% Steel
- D) 74% Nickel and 26% Steel

26. An average man can develop the maximum power of about
- A) 0.1 hp
 - B) 1.0 hp
 - C) 1.5 hp
 - D) 0.2 hp
27. External combustion engine is
- A) Steam engine
 - B) Petrol engine
 - C) Diesel engine
 - D) Both (B) & (C)
28. The first Internal Combustion (IC) engine was invented by
- A) Nicolaus Otto
 - B) James Watt
 - C) Hudson
 - D) Ferrari
29. In a diesel engine _____ is/are available.
- A) Carburettor
 - B) Injector
 - C) Both (A) and (B)
 - D) Neither (A) nor (B)
30. The firing interval of a two-stroke two-cylinder engine is
- A) 180°
 - B) 360°
 - C) 120°
 - D) 150°

31. In a four-stroke cycle engine, one power stroke is obtained after every
- A) Half revolution of the crank shaft
 - B) One revolution of the crank shaft
 - C) Two revolutions of the crank shaft
 - D) Three revolutions of the crank shaft
32. Flywheel is made of
- A) Cast iron
 - B) Aluminium alloy
 - C) High carbon steel
 - D) Low carbon steel
33. Blue smoke indicates
- A) Presence of water in fuel
 - B) Burning of lubricant in cylinder
 - C) Engine is overloaded
 - D) Rich air and fuel mixture
34. The inlet valve of a four-stroke engine opens at
- A) 5° before Top Dead Centre
 - B) 10° before Top Dead Centre
 - C) 5° before Bottom Dead Centre
 - D) 10° before Bottom Dead Centre
35. The firing order of a four-stroke six-cylinder engine is
- A) 1-5-3-6-2-4
 - B) 1-3-4-2-6-5
 - C) 1-3-5-6-2-4
 - D) 1-3-2-5-4-6

36. Most popular type of clutch used in a tractor is
- A) Multiple disc type
 - B) Single plate type
 - C) Hydraulic cylinder type
 - D) All of the above
37. Inflation pressure of front tyre of a tractor is
- A) 1.2 to 2.0 kg/cm²
 - B) 2.0 to 2.5 kg/cm²
 - C) 2.0 to 2.8 kg/cm²
 - D) 0.8 to 1.2 kg/cm²
38. Tappet clearance of a tractor engine is measured by means of
- A) Sample measuring scale
 - B) Screw gauge
 - C) Feeler gauge strips
 - D) Vernier calipers
39. Power tiller is a
- A) Prime mover
 - B) Orchard tractor
 - C) Small tractor
 - D) Garden tractor
40. The power tillers in India was introduced in the year
- A) 1963
 - B) 1943
 - C) 1983
 - D) 1923

41. The size of a tractor drawn Mould Board Plough ranges between
- A) 10-20 cm
 - B) 20-30 cm
 - C) 30-40 cm
 - D) 40-50 cm
42. Which one of the following is the most commonly used for primary tillage equipment?
- A) Cultivators
 - B) Mould Board plough
 - C) Chisel type tools
 - D) Rotary tillers
43. Which of the following is not a part of the fixed cost of farm machinery operation?
- A) Depreciation
 - B) Insurance and taxes
 - C) Repair and Maintenance
 - D) Interest on investment
44. The size of a Mould Board Plough refers to the
- A) Depth of cut
 - B) Width of furrow cut
 - C) Draft on plough
 - D) Horizontal suction
45. Which of the following is expressed as the ratio of effective field capacity to theoretical field capacity?
- A) Field efficiency
 - B) Performance efficiency
 - C) Operating efficiency
 - D) Cost efficiency

46. Hand operated spraying and dusting machines are operated at pressure
- A) 100-700 kg/cm²
 - B) 10-70 kg/cm²
 - C) 1.0-7.0 kg/cm²
 - D) 0.1-0.7 kg/cm²
47. The expected annual working hours of seed drill is
- A) 1000
 - B) 2500
 - C) 2000
 - D) 1700
48. A machine used for cutting of cereal crops is
- A) Reaper
 - B) Mower
 - C) Combine
 - D) Winnower
49. Central Region Farm Machinery Training and Testing Institute is located at
- A) Budni
 - B) Hissar
 - C) Anantpur
 - D) Pantnagar
50. The best time for seed drill calibration is
- A) Before sowing
 - B) After sowing
 - C) During sowing
 - D) During interculture

51. Which is a component of protected cultivation?
- A) Drip irrigation
 - B) Shade net
 - C) Low tunnel
 - D) All of the above
52. What is the full form of CEA?
- A) Controlled Effective Aspects
 - B) Controlled Environment Approach
 - C) Controlled Environment Agriculture
 - D) Controlled Effective Agriculture
53. Which is the naturally ventilated greenhouse?
- A) Tubular structure
 - B) Bamboo structure
 - C) Wooden structure
 - D) All of the above
54. What should be the ideal direction of a polyhouse?
- A) North-East
 - B) North-South
 - C) South-East
 - D) South-West
55. The most used irrigation system under protected cultivation is
- A) Sprinkler irrigation system
 - B) Water cane system
 - C) Drip irrigation system
 - D) Sub-surface irrigation
56. The location of the greenhouse should be selected based on factors such as
- A) Wind direction
 - B) Sunlight exposure
 - C) Water and Electricity
 - D) All of the above

57. The greenhouse gas present in a very high quantity is
- A) Ethane
 - B) Carbon dioxide
 - C) Propane
 - D) Methane
58. What type of greenhouse is constructed on hilly terrain?
- A) Uneven span type green house
 - B) Even span type green house
 - C) Lean to type green house
 - D) None of the above
59. The commercial utilization of greenhouses in India started from
- A) 1928
 - B) 1948
 - C) 1968
 - D) 1988
60. Which of the following country ranks first in green house cultivation in the world?
- A) United States of America
 - B) India
 - C) Japan
 - D) China
61. In a cool greenhouse, the night temperature falls to about
- A) 5-7 °C
 - B) 0-1 °C
 - C) 7-10 °C
 - D) 2-5 °C

62. In thin layer drying, depth of grain bed should not exceed
- A) 10 cm
 - B) 20 cm
 - C) 25 cm
 - D) 30 cm
63. Spray dryers are used for drying
- A) Grain
 - B) Liquid foods
 - C) Milk powder
 - D) None of the above
64. Double runner disk type attrition mill operation ranges between
- A) 350-700 rpm
 - B) 1200-7000 rpm
 - C) 120-700 rpm
 - D) 3500-7000 rpm
65. The drying chamber of LSU dryer is usually
- A) 1.5 m × 1.5 m
 - B) 1.2 m × 1.2 m
 - C) 1.8 m × 1.8 m
 - D) All of the above
66. In a HTST pasteurizer, milk is heated to a temperature of
- A) 71° C
 - B) 61° C
 - C) 81° C
 - D) 91° C

67. The moisture commonly removed in drying is
- A) Total moisture
 - B) Bound moisture
 - C) Free moisture
 - D) Critical moisture
68. Desirable temperature for grape storage is
- A) -1 to 1°C
 - B) -5 to 5°C
 - C) -3 to -3°C
 - D) -5 to 0°C
69. Bukhari type structures are generally used for storage of
- A) Vegetables
 - B) Water
 - C) Grain
 - D) Fodder
70. Separation of broken grains on the basis of length can be done by using
- A) Indented cylinder
 - B) Scalper
 - C) Debearder
 - D) Spiral separator
71. Cotton seed contains _____% oil
- A) 5-8
 - B) 5-10
 - C) 12-14
 - D) 15-20

72. The ideal relative humidity (%) for onion storage is
- A) 60-65
 - B) 70-75
 - C) 80-85
 - D) 90-95
73. Full form of FSIS is
- A) Food supply and inspection system
 - B) Food safety and inspection system
 - C) Food safety and inspection service
 - D) Food service and inspection scheme
74. Gravity separator works on the principles of
- A) Gravity
 - B) Drag
 - C) Both (A) & (B)
 - D) Neither (A) nor (B)
75. Equilibrium moisture curve is a plot between
- A) Moisture content and relative humidity
 - B) Temperature and relative humidity
 - C) Moisture content and air temperature
 - D) Moisture content and air velocity

76. Renewable source of energy can be renewed by
- A) Chemical Process
 - B) Mechanical Process
 - C) Reproduction Process
 - D) All of the above
77. Renewable Energy may be obtained by
- A) Sun
 - B) Biomass and Biogas
 - C) Wind
 - D) All of the above
78. Wind is a source of
- A) Inexhaustible energy
 - B) Exhaustible energy
 - C) Non-renewable energy
 - D) None of the above
79. Biogas is used for
- A) Cooking food
 - B) Operating engine
 - C) Burning gas stove
 - D) All of the above
80. The minimum speed of wind for working of a windmill should be
- A) 5 kmph
 - B) 10 kmph
 - C) 25 kmph
 - D) 30 kmph

81. Calorific value of biogas is
- A) 450 kcal/m³
 - B) 1000 kcal/m³
 - C) 3000 kcal/m³
 - D) 4500 kcal/m³
82. The instrument used to measure wind speed is
- A) Dynamometer
 - B) Anemometer
 - C) Hygrometer
 - D) Thermometer
83. Biogas is a mixture of
- A) Methane and carbon dioxide
 - B) Ethane and carbon dioxide
 - C) Ethane and methane
 - D) Ethane and carbon mono oxide
84. The instrument used to measure the solar radiation is
- A) Thermometer
 - B) Pyrheliometer
 - C) Thermocouple
 - D) All of the above
85. Which of the biogas plant has digester tank and gasholder as combined unit?
- A) Floating dome type
 - B) Fixed dome type
 - C) Both (A) & (B)
 - D) Neither (A) nor (B)

86. Solar radiation reaches to the earth in the form of
- A) Beam radiation
 - B) Defuse radiation
 - C) Both (A) & (B)
 - D) Neither (A) nor (B)
87. Temperature attainable with concentrating collector as compared to flat plate collector is
- A) Lower
 - B) Higher
 - C) Equal
 - D) None of the above
88. The wet process of biomass digestion involve
- A) Pyrolysis and Gasification
 - B) Hydrogenation and liquefaction
 - C) Liquefaction and Pyrolysis
 - D) Anaerobic digestion and fermentation
89. The angle made by the horizontal projection of sun rays with due south is
- A) Latitude
 - B) Zenith
 - C) Altitude
 - D) Azimuth
90. Thermal efficiency of a biogas is
- A) 50%
 - B) 60 %
 - C) 70 %
 - D) 80 %

91. An example of non-renewable energy source is
- A) Sun
 - B) Wind
 - C) Ocean
 - D) Oil
92. Flat plate type collectors have efficiencies about
- A) 50 %
 - B) 40 %
 - C) 30 %
 - D) 10 %
93. Gasification of biomass is a _____ conversion
- A) Biochemical
 - B) Chemical
 - C) Thermo-chemical
 - D) Biological
94. Energy from urban and industrial wastes can be obtained through
- A) Incineration
 - B) Anaerobic digestion
 - C) Briquetting
 - D) All of the above
95. Khadi and Village Industries Commission (KVIC) started a project on biogas on large scale in
- A) 1922
 - B) 1942
 - C) 1962
 - D) 1982

96. Photovoltaic solar cells are made of
- A) Silicon
 - B) Carbon
 - C) Gun metal
 - D) Silver
97. The gas produced in the gasifier is a clean burning fuel having heating value of about
- A) 850-1100 kcal/m³
 - B) 950-1200 kcal/m³
 - C) 750-950 kcal/m³
 - D) 450-750 kcal/m³
98. The average calorific value of biogas is taken as
- A) 4713 kcal/unit
 - B) 4723 kcal/unit
 - C) 5713 kcal/unit
 - D) 4818 kcal/unit
99. Pump used in the windmill may be
- A) Reciprocating type
 - B) Rotor type
 - C) Diaphragm type
 - D) Any of the above
100. In anaerobic digestion the end product is
- A) Hydrogen
 - B) Oxygen
 - C) Methane
 - D) Carbon dioxide
-

ROUGH WORK

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

Booklet Serial No. **206069**

Test Booklet Series

TEST BOOKLET
SOIL CONSERVATION ASSISTANT/PHOTO
INTERPRETER
BOTANY
Written Test - 2024
(93)

A

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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 - (iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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(93) (A)/2024

[P.T.O.]

40009

1. Which of the following forms of soil water is available for plants / up-taken by plants?

A) Capillary water	B) Gravitational water
C) Combined water	D) Hygroscopic water

2. The diversity of species between habitat or community is known as:

A) Alpha Diversity	B) Beta Diversity
C) Gamma Diversity	D) Delta Diversity

3. Which of the following traits are attributed to r — selected population?
 - A) Variable population size, small individual
 - B) Variable population size, large individual
 - C) Fairly constant - population size, large individual
 - D) Fairly constant - population size, small Individual

4. *Acacia nilotica* ssp. *nilotica* is an example of which _____.

A) Basionym	B) Autonym
C) Taxtonym	D) Synonym

5. In the system of classification given by Bentham & Hooker, apetalous, perianth bearing flowers were placed in:

A) Polypetalae	B) Gamopetalae
C) Monochlamydeae	D) Microspermae

6. Herbicide diuron acts by which of the....
 - A) Blocking electron transport chain in mitochondria
 - B) Blocking electron transport chain in photosynthesis
 - C) Blocking Calvin Benson cycle
 - D) Blocking splitting of water

7. Match the following and mark the correct option:

A	B
a. Chromosome Theory of Inheritance	i. Gregor J. Mendel
b. Law of Segregation	ii. Meselson & Stahl
c. Cell Theory	iii. Sutton & Boveri
d. Semi- Conservative nature of DNA	iv. Schleiden & Schwann
A) a-iii, b-i, c-iv, d-ii	B) a-i, b-ii, c-iii, d-iv
C) a-iv, b-iii, c-ii, d-i	D) a-iii, b-iv, c-ii, d-i

42. Which of the following polymer predominantly make cell wall of algae?
 A) Chitin B) Cellulose
 C) Lignin D) Suberin
43. Which of the following species of algae are epizoic?
 A) Vaucheria B) Ulothrix
 C) Cephaleuros D) *Cladophora*
44. Which of the following organism is responsible for the characteristic colour on the Yellow Stone National Park of U.S.?
 A) Fungi B) Bryophyta
 C) Algae D) Diatom
45. Which of the following is also known as dwarf male in *Oedogonium*?
 A) Nannandrous B) Macrandous
 C) Gyandrosporous D) Akinetes
46. Which of the following groups show trichothallic growth?
 A) Oedogoniales B) Conjugales
 C) Siphonales D) Ectocarpales
47. Which of the following have Quadriflagellate Macrozoospores?
 A) Ascobolus B) Ulothrix
 C) Spirogyra D) Alternaria
48. Which of the following structures help in adhering to the surface of host?
 A) Sclerotium B) Stromata
 C) Prosenchyma D) Appressorium
49. Which of the following is an example of holocarpic fungi:
 A) Pencillium B) Synchytrium
 C) Ascobolus D) Alternaria
50. Match the plant disease with their causative organism.
- | A | B |
|---------------------------|-------------------------|
| a. Powdery Mildew | i. <i>Cephaleuros</i> |
| b. Loose Smut | ii. <i>Erysiphe sp.</i> |
| c. Red Rust of Tea | iii. <i>Albugo</i> |
| d. White Rust of Crucifer | iv. <i>Ustilago</i> |
- A) a - ii, b - iv, c - i, d - iii
 B) a - i, b - iii, c - iv, d - ii
 C) a - i, b - ii, c - iii, d - iv
 D) a - ii, b - i, c - iii, d - iv

67. Growth of epiphytes on a tree is an example of :
- A) Parasitism
B) Mutualism
C) Commensalism
D) Amensalism.
68. *Cuscuta* is an example of
- A) Root endoparasite
B) Stem ectoparasite
C) Stem endoparasite
D) Root ectoparasite
69. In the equation for population growth curve: $\frac{dN}{dt} = rN \times \left(\frac{K - N}{K} \right)$ K denotes?
- A) Fecundity
B) Clutch size
C) Population density
D) Carrying capacity
70. Who is known as father of Ecology in India?
- A) Ramdeo Misra
B) Hargobind Khurana
C) P.D. Sharma
D) Gurucharan Singh
71. Which of the following group of bacteria are primarily used in Biogas plant?
- A) Coliforms
B) Green-sulphur bacteria
C) Methanogens
D) Purple bacteria
72. The process of breeding crops for enhanced nutrient value to improve public health is known as:
- A) Bio-fortification
B) Bio-augmentation
C) Mutation breeding
D) Bio-stimulation
73. Which of the following tissues are responsible for secondary growth in plants?
- A) Shoot apical meristem
B) Axillary bud
C) Fascicular cambium
D) Root apical meristem
74. Which of the following cells are generally not found in gymnosperms?
- A) Tracheids
B) Vessels
C) Parenchyma
D) Collenchyma
75. Which of the following tissues constitute the stele?
- i. Cortex
ii. Pericycle
iii. Vascular bundles
iv. Pith
- A) i, ii, iv
B) i, iii, iv
C) i, ii, iii
D) ii, iii, iv

76. Which of the following is also known as starch sheath?
 A) Pericycle
 B) Endodermis
 C) Epidermis
 D) Pith
77. In the Pitcher plant, the Pitcher is a modified:
 A) Bracteole
 B) Bract
 C) Leaf
 D) Stem
78. Which of the following inflorescence does not bear flowers in acropetal succession?
 A) Raceme
 B) Cymose
 C) Spike
 D) Catkin
79. Which of the following stage of cell cycle is also known as quiescent stage?
 A) G_0
 B) S
 C) G_1
 D) G_2
80. Which of the following is not a part of apoplastic pathway?
 A) Root tip
 B) Casparian strips
 C) Shoot tip
 D) Pith
81. The experiment on girdling of stem led to which of the following:
 A) Xylem is responsible for translocation of photosynthates
 B) Phloem is responsible for translocation of photosynthates
 C) Xylem has unidirectional flow of molecules
 D) Phloem is responsible for generating transpiration
82. Who among the following demonstrated that plants can grow in nutrient solution without soil?
 A) Joseph Priestly
 B) Charles Darwin
 C) Julius von Sachs
 D) T.W. Engelmann
83. The chromosome formulae $2n = x = 7$, represents which of the following ?
 A) Nullisomic
 B) Monploid
 C) Haploid
 D) Polyhaploid
84. Bar eyed phenotype in *Drosophila* results due to which of the following:
 A) Deficiency
 B) Inversion
 C) Duplication
 D) Translocation
85. Phenyl Ketonuria results due to which of the following:
 A) Degradation of phenylpyruvic acid
 B) Accumulation of phenylpropanoic acid
 C) Accumulation of phenylalanine
 D) Accumulation of phenylpyruvic acid

86. Which of the following is not a property of genetic code?
A) Overlapping
B) Triplet
C) Universal
D) Degenerate
87. The term Central Dogma was described by:
A) Francois Jacob
B) Francis Crick
C) Jacques Monod
D) Sydney Brenner
88. According to the ABCDE model of flowering, which of the following is not true:
A) Class A gene are responsible for sepal formation
B) Combined action of B, C & E lead to stamen development
C) D, C & E lead to formation of anthers
D) C & E together lead to formation of Carpels
89. The Environment (Protection) Act was passed by Government of India in:
A) 1992
B) 1986
C) 1981
D) 2002
90. Release of untreated sewage into water body will lead to:
A) Increase in BOD
B) Increase in DO
C) Decrease in COD
D) Increase in COD
91. Which of the species is known as terror of Bengal:
A) *Hydrilla*
B) *Trapa bispinosa*
C) *Azolla*
D) *Eichhornia crassipes*
92. Which of the following is an inducer in lac operon?
A) Glucose
B) Lactose
C) β -galactosidase
D) Permase
93. Presence of homologous structures indicate towards:
A) Adaptive radiation
B) Convergent evolution
C) Divergent evolution
D) Saltation
94. Which of the following traits was not studied by Mendel in Pea?
A) Flower shape
B) Pod shape
C) Seed shape
D) Flower colour

95. ABO blood group is an example of:
- A) Incomplete dominance B) Polyploidy
C) Pleiotropy D) Co-dominance
96. To which of the following families major food crops of the world belong to:
- A) Asteraceae B) Liliaceae
C) Poaceae D) Euphorbiaceae
97. Which of the following two whorls form the perigonium?
- A) Calyx & corolla B) Calyx and epicalyx
C) Corolla & gynoecium D) Androecium & gynoecium
98. Pollen tubes were observed for the first time by:
- A) S. Nawaschin B) E. Strasburger
C) G.B. Amici D) W. Hofmeister
99. The fleshy, edible part of litchi is:
- A) Sarcotesta B) Aril
C) Elaiosomes D) Operculum
100. Which of the following plant hormone induce seed dormancy?
- A) Gibberellins B) Cytokinins
C) Absciscic acid D) Ethylene
-

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