

Test Booklet No. \_\_\_\_\_

**This booklet consists of 150 questions and 19 printed pages.**

**RGUPET/2024/\_\_\_/\_\_\_**

**RGUPET 2024**  
**Common Entrance Test, 2024**  
**DOCTOR OF PHILOSOPHY IN AGRONOMY**

**Full Marks: 150**  
**Hours**

**Time: 3**

Roll No.

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Day and Date of Examination: \_\_\_\_\_

Signature of Invigilator(s) \_\_\_\_\_

Signature of Candidate \_\_\_\_\_

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*General Instructions:*

***PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.***

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 150 Multiple Choice Questions (MCQs) from the concerned subject. Each question carries 1 mark.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall after the commencement of the entrance test or leave the examination hall within two hour.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidates are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

1	Who won the Ballon d'Or 2023				Answer
	a) Cristiano Ronaldo	b) Lionel Messi	c) Erling Haaland	d) Karim Benzama	<b>b</b>
2	Which of the following statements is/are true? A) CO <sub>2</sub> is the main component of greenhouse effect B) N <sub>2</sub> O has higher global warming potential than CO <sub>2</sub> C) Methane production is very high under Dryland farming D) Highest methane production is from forest area				
	a) Only A	b) A&B	c) B, C&D	d) Only D	<b>b</b>
3	Which Tribe of Arunachal Pradesh celebrate the festival of Nyokum?				
	a) Monpa	b) Galo	c) Nyishi	d) Adi	<b>c</b>
4	World water Day is celebrated on				
	a) 22 <sup>nd</sup> March	b) 22 <sup>nd</sup> April	c) 21 <sup>st</sup> April	d) 20 <sup>th</sup> March	<b>a</b>
5	Ayushman Bharat Scheme is related to				
	a) Health insurance	b) Agriculture insurance	c) Pension	d) Poverty alleviation	<b>a</b>
6	Anusandhan National Research Foundation Act established in which year				<b>c</b>
	a) 2024	b) 2021	c) 2023	d) 1993	2023
7	Elon Mask launched _____ satellite internet service in Indonesia.				Answer option (a)
	a) Starlink	b) Weather link	c) Cloud link	d) Data link	Starlink
8	The G20 Summit 2023, held in India, focused on which of the following: A. Climate Change B. Global Health C. Digital Transformation D. Military Alliances				Answer option (a,b,c or d)
	a) A, B & D only	b) A, B & C only	c) B, C & D only	d) A, C & D only	b) A, B & C only
9	Which of the following is true regarding the Earth's layers: A. The inner core is made up of solid rock. B. The mantle is composed primarily of liquid iron and nickel. C. The lithosphere is part of the Earth's asthenosphere. D. The crust is the thickest layer of the Earth.				<b>b</b>
	a) D	b) C	c) B	d) A	The lithosphere is part of the Earth's asthenosphere
10	Who won the gold medal for India in the Men's Javelin Throw at the Tokyo Olympics 2021?				Answer option (a,b,c or d)
	a) Neeraj Chopra	b) Annu Rani	c) Davinder Singh Kang	d) Shivpal Singh	<b>a</b>

11	The study of stars is known as				b
	a) astrology	b) astronomy	c) anthropology	d) spaceology	astronomy
12	Choose direct form of speech from the given option. She says "I am a bit busy today."				
	a) She said that she was a bit busy that today	b) She said she is busy today.	c) She said she is busy today.	d) She is a bit busy today was said by her.	(c)
13	Which of the following sentences is correctly arranged?				Answer option (b)
	a)The quietly river flowed under the bridge.	b)The river quietly flowed under the bridge.	c) Under the quietly bridge flowed the river.	d)The river under the bridge quietly flowed.	Answer The river quietly flowed under the bridge.
14	Find the <b>incorrect</b> phrase(s) in the following sentence:  It was her / who came / running / on the room.  A. It was her B. who came C. running D. on the room				Answer option c
	a) A only	b) B and D only	c) A and D only	d) D only	A and D only
15	Match the columns:				Answer option a
	A. battalion		i. Sun		
	B. surrender		ii. herd		
	C. cattle		iii. docile		
	D. eclipse		iv. army		
	a)A –iv, B-iii, C-ii, D-i	b)A –ii, B-iv, C-iii, D-i	c)A –ii, B-iii, C-iv, D-i	d) A –iv, B-i, C-ii, D-iii	A –iv, B-iii, C-ii, D-i
16	How many 4-digit numbers can be formed using the digits 0,1,2,3,4,5,6 which are greater than 4000 and where repetition of digits is not allowed?				Answer option (a,b,c or d)
	a) 1029	b) 1028	c) 1043	d) None of these	(b)
17	How many seconds does Aditya take to cover a distance of 400 m, if he runs at a speed of 20 km/h?				Answer option (a,b,c or d)
	a) 72 seconds	b) 62 seconds	c) 75 seconds	d) 80 seconds	(a)
18	From a point X on a level ground, the angle of elevation of the top of a Temple is 30°. If the distance from the foot of the temple to the point X				

	is 173 m, then the height of the temple is: (given $\sqrt{3} = 1.73$ ) Which one of the following is a disaccharide				
	a) 100 m	b) 200 m	c) 150m	d) 50 m	a
19	The arithmetic mean of the first 11 natural numbers is-				c
	a) 11	b) 5.5	c) 6.0	d) 6.5	6.0
20	If 2 men or 6 women or 4 boys can finish a work in 99 days, how many days will one man, one woman and one boy together take to finish the same work?				d
	a) 44 days	b) 104 days	c) 64 days	d) 108 days	108 days
21	Choose the correct statement about ICRISAT: A. It is situated at New Delhi B. Its main focus is for irrigated crops C. Headquarter is located at Patancheru, Hyderabad D. Rice is their main focus crop				C
	a) A	b) B	c) C	d) D	c
22	Copying the work of other authors in whole pieces is called as:				
	a) Self-plagiarism	b) Indirect plagiarism	c) Direct plagiarism	d) Patch writing	d
23	Choose the correct match from the given below:				
	A. CAZRI		i. Tamil Nadu		
	B. CRIDA		ii. Jodhpur		
	C. NCOF		iii. Ghaziabad		
	D. SBI		iv. Hyderabad		
	a) A-ii, B-iv, C-iii, D-i	b) A-ii, B-i, C-iii, D-iv	c) A-iv, B-i, C-iii, D-ii	d) A-iv, B-iii, C-i, D-ii	a
24	Which of the following is not a principle of research ethics?				
	a) Honesty	b) Integrity	c) Incompetence	d) Legality	c
25	Which of the following statements is/are true? A. Ethics in research lays the bounds of discipline for a researcher B. Plagiarism is against the principles of morality, but no legal action can be taken against the plagiariser C. Research ethics provides a common set of dos and don'ts of conducting ethical research D. Research emerges from the societal problems and the observation of a researcher				
	a) A, B & C	b) A, C & D	c) Only B	d) B & C	b
26	Given below are two statements, one is labelled as Assertion and the other is labelled as Justification A. Assertion: A researcher has to observe codal formalities at all stages without scope and leeway for offending moral and ethical norms B. Justification: In respect of data collection, data analysis and interpretation there is, however, a considerable scope of being ethically vulnerable Choose the correct answer from the options given below: 1. Both A & B are true but B is not the correct justification of A 2. A is false but B is true 3. Both A & B are true and B is the correct justification of A 4. B is false but A is true				c
	a) 1	b) 2	c) 3	d) 4	c
27	The long-term fertilizer experiment is located at				

	a) IARI-New Delhi	b) Bhopal	c) Pantnagar	d) Jhansi	<b>b</b>
28	As per copyright laws, 'Fair-use' allows the limited use of copyright works for				
	a) Commercial use	b) Educational purpose	c) Making videos	d) Making paid online courses	<b>b</b>
29	The ethical considerations in research include: A. Privacy as an insignificant issue B. Informed consent C. Free copying from books and journals D. Proper referencing Choose the correct answer from the options given below:				
	a) Only A & B	b) Only C & D	c) Only B & D	d) Only A	<b>c</b>
30	Two statements are given below: One is labelled as Assertion and the other is labelled as Justification A. Assertion: A research thesis has to follow a prescribed format and style of referencing. B. Justification: This ensures the observance of research ethics. Choose the most appropriate answer from the options given below: 1. A is correct but B is not correct 2. A is not correct but B is correct 3. Both A & B are correct and B is the correct explanation of A 4. Both A & B are correct but B is not the correct explanation of A				<b>a</b>
	a) 1	b) 2	c) 3	d) 4	<b>a</b>
31	Which of the following is most relevant cultivation practices in the current scenario?				
	a) Conventional farming	b) Climate resilience practices	c) Input intensive cultivation	d) Monocropping	<b>b</b>
32	Using other people's material without giving proper credit is termed as				
	a) Fabrication	b) Falsification	c) Copying	d) Plagiarism	<b>d</b>
33	Which of the following is related to <i>per drop more crop</i> ?				
	a) Flood irrigation	b) Furrow irrigation	c) Drip-irrigation	d) Alternate wetting and drying	<b>c</b>
34	Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b> . <b>Assertion A:</b> Deep placement of fertilizer enhance the use efficiency <b>Reason R:</b> Broadcasting of fertilizer increases the crop yield In the light of the above statement, choose the correct answer from the options given below: 1. Both A and R are true and R is not the correct explanation of A 2. Both A and R are true and R is the correct explanation of A 3. A is true but R is false 4. R is true but A is false				<b>3</b>
	a) 1	b) 2	c) 3	d) 4	<b>3</b>
35	Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b> . <b>Assertion A:</b> Jhum cultivation is a subsistence type of farming				<b>1</b>

	<b>Reason R:</b> Agroforestry is an alternative farming practice In the light of the above statement, choose the correct answer from the options given below: 1. Both A and R are true and R is not the correct explanation of A 2. Both A and R are true and R is the correct explanation of A 3. A is true but R is false 4. R is true but A is false				
	a) 1	b) 2	c) 3	d) 4	<b>a</b>
36	Which of the following is correctly matched? 1. Indian journal of Agronomy- ISA 2. The Indian journal of Agricultural sciences- Elsevier 3. Scientific reports- Willey 4. Field crops research- Nature				<b>a</b>
	a) 1	b) 2	c) 3	d) 4	<b>a</b>
37	Choose the correct match for plagiarism level according to UGC regulations, 2018 on plagiarism:				
	A Level 0		i Similarities above 40% to 60%		
	B Level 1		ii Similarities above 60%		
	C Level 2		iii Similarities up to 10%		
	D Level 3		iv Similarities above 10% to 40%		
	a) A-iii, B-iv, C-i, D-ii	b) A-iv, B-iii, C-i, D-ii	c) A-i, B-ii, C-iii, D-iv	d) A-iii, B-iv, C-ii, D-i	<b>a</b>
38	What does impact factor denotes in journal?				
	a) Number of citations a journal receives	b) Number of articles published in a journal	c) Number of articles received in a year	d. Number of authors in an article	<b>a</b>
39	Which of the following is an erosion prevention measure?				
	a) Monocropping	b) Residue burning	c) Repeated ploughing	d) Grassed waterways	<b>d</b>
40	Two statements are given below: A: In India, the Consortium for Academic and Research Ethics (CARE) has been established by UGC to prepare and maintain lists of quality research journals. B: Guidance document: Good Academic Research Practices (2020) has been published by CARE. Choose the correct answer from the options given below: 1. Both statement A and B are true 2. Statement A is true but Statement B is false 3. Both statement A and B are false 4. Statement A is false but Statement B is true				<b>b</b>
	a) 1	b) 2	c) 3	d) 4	<b>b</b>
41	Which of the following process is not needed in experimental research?				<b>d</b>
	a) Reference collection	b) Observation	c) Controlling	d) Manipulation	Manipulation
42	Which of the following completes the research process?				<b>d</b>
	a) Preface writing	b) Research note	c) Summary writing	d) Report writing	Report writing
43	Kurtosis refers to the:				<b>d</b>
	a) Symmetry of a distribution	b) Asymmetry of a distribution	c) Tails of a distribution	d) Spread of a distribution	Spread of a distribution

44	Which of the following is NOT a feature of Google Scholar?				b
	a) Citation tracking	b) Social media integration	c) Advanced search options	d) Author profiles	Social media integration
45	In a dataset {3, 5, 2, 5, 7, 5, 8}, what is the mode?				c
	a) 2	b) 3	c) 5	d) 35	5
46	In a normal distribution, what percentage of data falls within one standard deviation from the mean?				b
	a) Approximately 95 %	b) Approximately 68 %	c) Approximately 99.7 %	d) Approximately 50 %	Approximately 68 %
47	Data related to geophysical characteristics are called				d
	a) Demographic data	b) Atmospheric data	c) Physical data	d) Territorial data	Territorial data
48	The literature available in a library can give				b
	a) primary data	b) secondary data	c) both primary and secondary data	d) no data	secondary data
49	Which of the following body(ies) is/are 'TRUE' that is associated with the grant of funds to higher education in India?				a)
	A. UGC				
	B. State Government				
	C. Municipal Corporation and Zilla Parishad.				
	D. Central Government				
	a) A-True, B-False, C-False, D-False	b) A-False, B-False, C-True, D-True	c) A-True, B-False, C-True, D-True	d) A-False, B-True, C-False, D-True	A-True, B-False, C-False, D-False
50	Which of the following statements are true? A. As a student, when writing a research project, it is best to keep the topic very broad. B. A literature review should simply be a "recap" of one article after another. C. Peer-reviewed means that research has been reviewed and evaluated by experts in the field before it is published. D. When possible, it is important to review literature that is non-peer-reviewed to help ensure more academic-based quality of research.				b)
	a) A-True, B-True, C-True, D-False	b) A-False, B-False, C-True, D-False	c) A-False, B-True, C-False, D-False	d) A-True, B-False, C-True, D-False	A-False, B-False, C-True, D-False
51	Choose the correct statement about conservation agriculture: A. Herbicides is not used in conservation agriculture B. About 30% area should be covered with crop residues C. Monocropping is followed in conservation agriculture D. Crop rotation is not encouraged				

	a) A & B	b) B	c) C & D	d) B & C	<b>b</b>
52	Which of the following statement best describe about tilth? A. Capillary and non-capillary pores in equal proportion B. Lower water retention capacity C. Soil should be less porous D. Compacted upper soil layer				
	a) A	b) B & C	c) C & D	d) B	<b>a</b>
53	Which of the following statements is/are true? A. Area under rice-wheat cropping system is about 10.5 mha in India B. Rice-wheat is the most important cropping system of India C. Productivity of rice is the highest in Arunachal Pradesh D. Millets are not commonly grown in Arunachal Pradesh				
	a) A & B	b) A	c) A, B & C	d) C&D	<b>a</b>
54	Choose the correct statement about alternate land use system: A. Land capability-based cropping practices B. Intensive cropping system in low-fertile land C. No substitution of the existing crops D. Does not followed the ecological principle				
	a) A	b) B & C	c) C & D	d) C	<b>a</b>
55	Which of the following statement is/are true? A. Allelopathy cannot be employed for weed management B. Allelopathy can be employed for weed management C. Allelopathy is a chemical co-action D. Allelopathic crop can be grown as intercrop				
	a) A&B	b) B&C	c) B	d) B, C & D	<b>b</b>
56	Choose the correct statement A. Lime is used for reclaiming saline soil B. Gypsum is used for reclaiming acidic soil C. Lime is used for reclaiming acidic soil D. Waterlogging overcome salinity				
	a) A & B	b) B & D	c) C	d) B & C	<b>c</b>
57	Choose the correct match of suitable rhizobium species for different crops:				
	A <i>Rhizobium trifoli</i>		i Soybean		
	B <i>Rhizobium japonicum</i>		ii Berseem		
	C <i>Rhizobium meliloti</i>		iii Lentil		
	D <i>Rhizobium leguminosarum</i>		iv Alfalfa		
	a) A-ii, B-i, C-iv, D-iii	b) A-ii, B-i, C-iii, D-iv	c) A-iv, B-i, C-iii, D-ii	d) A-iv, B-iii, C-i, D-ii	<b>a</b>
58	Choose the correct match for nitrogen content in fertilizers:				
	A. Ammonium sulphate		i. 26 %		
	B. Monoammonium phosphate		ii. 16 %		
	C. Ammonium phosphate sulphate		iii. 20 %		
	D. Ammonium chloride		iv. 12 %		
	a) A-i, B-ii, C-iii, D-iv	b) A-iii, B-ii, C-iv, D-i	c) A-iii, B-iv, C-ii, D-i	d) A-i, B-iii, C-iv, D-ii	<b>c</b>
59	Which of the following is correctly match? A. Perennial weeds- systemic herbicides B. Annual weeds- systemic herbicides C. Perennial weeds- contact herbicides				

	D. <i>Phalaris minor</i> - dicot weeds				
	a) A	b) B & D	c) C & D	d) B	<b>a</b>
60	Choose the correct match about permissible limit for Biuret concentration in nitrogenous fertilizer A. Biuret- 1.9% B. Biuret- 1.5% C. Biuret- 2.5% D. Biuret- 2%				
	a) A & B	b) B	c) C & D	d) B & C	<b>b</b>
61	Which is the first herbicide tolerant paddy variety?				
	a) Pusa Basmati 1985	b) Pusa Basmati 1911	c) Pusa Basmati 1912	d) Pusa Basmati 1958	<b>a</b>
62	Choose the correct match from the following A. Criteria for nutrient essentiality- Liebig B. Law of minimum- Arnon C. Criteria for nutrient essentiality- Arnon & Stout D. Law of diminishing return- Jethro Tull				
	a) A & B	b) B	c) C	d) B & C	<b>c</b>
63	Choose the correct match A. Two factors- Split-plot design B. One factor- Split-split plot design C. Three factors- CRD design D. Two factors- RCBD design				
	a) A	b) B	c) C & D	d) B & C	<b>a</b>
64	The intra-specific chemical co-action is known as				
	a) Autoallelopathy	b) Alloallelopathy	c) Allelopathy	d) Allelospoly	<b>a</b>
65	Dredging and chaining is an obsolete weed control method for				
	a) Annual weeds	b) Perennial weeds	c) Aquatic weeds	d) Biennial weeds	<b>c</b>
66	Which of the following is a non-selective systemic herbicide				
	a) Glyphosate	b) Paraquat	c) Diquat	d) Atrazine	<b>a</b>
67	<i>Phalaris minor</i> have developed resistance against which herbicides				
	a) Glyphosate	b) Paraquat	c) 2,4-D	d) Isoproturon	<b>d</b>
68	Glyphosate inhibits				
	a) ACCase	b) EPSP synthase	c) ALS	d) PS-1	<b>b</b>
69	The minimum d.f. required for RCBD design is				
	a) 12	b) 10	c) 14	d) 11	<b>a</b>
70	Calculate the error d.f. for split-plot design, if there are two sowing times and six nutrient management practices with three replications				
	a) 22	b) 20	c) 15	d) 36	<b>b</b>
71	The experimental error can be reduced by following the principles of				
	a) Local control	b) Randomization	c) Replication	d) Both b&c	<b>d</b>
72	Application of fertilizer into soil close to seed/roots is termed as:				
	a) Top dressing	b) Broadcasting	c) Pellet application	d) Localised placement	<b>d</b>
73	Shelf life of liquid biofertilizers is:				

	a) 12-24 months	b) 24-36 months	c) 4-6 months	d) 6-12 months	<b>a</b>
74	Commonly used carrier for biofertilizers is?				
	a) Lignite	b) Peat	c) Charcoal	d) All of the above	<b>d</b>
75	Which of the following type of soil has the largest area in India?				
	a) Black	b) Alluvial	c) Laterite	d) Red	<b>b</b>
76	The goodness of fit can be tested by				
	a) Chi-square test	b) F-test	c) Z-test	d) Both b&c	<b>a</b>
77	Which group of nutrients is useful in energy storage, transfer and bonding?				
	a) N, P and Ca	b) Ca, P and S	c) N, P and S	d) N, Mg and P	<b>c</b>
78	<p>Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b>.</p> <p><b>Assertion A:</b> Weeds are prolific breeder and seeder</p> <p><b>Reason R:</b> Weeds have limited seed dispersal mechanism</p> <p>In the light of the above statement, choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> <li>Both A and R are true and R is not the correct explanation of A</li> <li>Both A and R are true and R is the correct explanation of A</li> <li>A is true but R is false</li> <li>R is true but A is false</li> </ol>				<b>3</b>
	a) 1	b) 2	c) 3	d) 4	<b>c</b>
79	<p>Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b>.</p> <p><b>Assertion A:</b> Sulphur is not required for oilseeds crops</p> <p><b>Reason R:</b> Sulphur improves the oil content</p> <p>In the light of the above statement, choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> <li>Both A and R are true and R is not the correct explanation of A</li> <li>Both A and R are true and R is the correct explanation of A</li> <li>A is true but R is false</li> <li>R is true but A is false</li> </ol>				<b>4</b>
	a) 1	b) 2	c) 3	d) 4	<b>d</b>
80	<p>Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b>.</p> <p><b>Assertion A:</b> Alternate land use systems maximize the output</p> <p><b>Reason R:</b> Agroforestry is climate smart agricultural practices</p> <p>In the light of the above statement, choose the correct answer from the options given below:</p> <ol style="list-style-type: none"> <li>Both A and R are true and R is not the correct explanation of A</li> <li>Both A and R are true and R is the correct explanation of A</li> <li>A is true but R is false</li> <li>R is true but A is false</li> </ol>				<b>1</b>
	a) 1	b) 2	c) 3	d) 4	<b>a</b>
81	<p>Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b>.</p> <p><b>Assertion A:</b> Ley farming involves rotation of legume forages with cereals</p> <p><b>Reason R:</b> Cereals followed by legumes improves soil fertility</p> <p>In the light of the above statement, choose the correct answer from the options given below:</p>				<b>2</b>

	1. Both A and R are true and R is not the correct explanation of A 2. Both A and R are true and R is the correct explanation of A 3. A is true but R is false 4. R is true but A is false				
	a) 1	b) 2	c) 3	d) 4	<b>b</b>
82	Given below are two statements: one is labelled as <b>Assertion A</b> and the other as <b>Reason R</b> . <b>Assertion A:</b> Vermicompost improves soil properties <b>Reason R:</b> Vermicompost are not recommended with fertilizer In the light of the above statement, choose the correct answer from the options given below: 1. Both A and R are true and R is not the correct explanation of A 2. Both A and R are true and R is the correct explanation of A 3. A is true but R is false 4. R is true but A is false				<b>3</b>
	a) 1	b) 2	c) 3	d) 4	<b>c</b>
83	Who postulated Law of Minimum?				Answer
	a) Baule	b) Leibig	c) Mitscherlich	d) Wilcox	<b>b</b>
84	Remote sensing helps in studying				
	a) Cropped area	b) Flood affected area	c) Both a & b	d) Cell structure	<b>c</b>
85	Which of the following statements is/are false? A. Using good quality seed is the only criterion to get high yield. B. Cells of root nodules of leguminous plants fix nitrogen. C. Growing different crops in different seasons in the same field will deplete the soil of nutrients. D. All crop plants are sown as seeds in the field.				
	a) A, B & C	b) Only B	c) A, C & D	d) B & C	<b>c</b>
86	Given below are two statements, one is labelled as Assertion and the other is labelled as Justification A. Assertion: Jhum cultivation is prevalence earlier as it gives enough time gap for the recovery of land from the effect of cultivation. B. Justification: With increasing population and repeated cultivation, this recovery phase is eliminated, resulting in deforestation. Choose the correct answer from the options given below:				
	a) Both A & B are true but B is not the correct justification of A	b) A is false but B is true	c) Both A & B are true and B is the correct justification of A	d) B is false but A is true	<b>a</b>
87	Which of the following statements is/are true? A. Planning commission divided the country into 20 agro-ecological zones. B. Assam is not a part of the Eastern Himalayan Agro-climatic zone. C. Agro-climatic zones are classified on the basis of rainfall, temperature, soil, topography, water resources and cropping systems. D. India has been divided into 13 biographical zones.				
	a) Only A	b) Only C	c) Only B	d) B & C	<b>b</b>
88	Two statements are given below: One is labelled as Assertion and the other is labelled as Justification				

	<p>A. Assertion: The eastern coastal belt of Tamil Nadu remains relatively dry during south west monsoon.          B. Justification: The Tamil Nadu coast lies in the rain shadow area of Arabian Sea current of south west monsoon.          Choose the most appropriate answer from the options given below:</p>												
	a) A is correct but B is not correct	b) A is not correct but B is correct	c) Both A & B are true and B is the correct explanation of A	d) Both A & B are correct but B is not the correct explanation of A	<b>c</b>								
89	<p>Choose the correct match for crops and geographical conditions:</p> <table border="1"> <tr> <td>A. Rice</td> <td>i. Cool climate and poorer soil</td> </tr> <tr> <td>B. Barley</td> <td>ii. Hot, dry climate and poor soil</td> </tr> <tr> <td>C. Millets</td> <td>iii. Warm, moist climate and high altitude</td> </tr> <tr> <td>D. Tea</td> <td>iv. Hot, moist climate and rich soil</td> </tr> </table>				A. Rice	i. Cool climate and poorer soil	B. Barley	ii. Hot, dry climate and poor soil	C. Millets	iii. Warm, moist climate and high altitude	D. Tea	iv. Hot, moist climate and rich soil	
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90	<p>Choose the correct match for agro-climatic zones with the states:</p> <table border="1"> <tr> <td>A Western Himalayan region</td> <td>i Rajasthan</td> </tr> <tr> <td>B Eastern Himalayan region</td> <td>ii Bihar</td> </tr> <tr> <td>C Middle Gangetic Plains region</td> <td>iii Jammu &amp; Kashmir</td> </tr> <tr> <td>D Western Dry region</td> <td>iv Sikkim</td> </tr> </table>				A Western Himalayan region	i Rajasthan	B Eastern Himalayan region	ii Bihar	C Middle Gangetic Plains region	iii Jammu & Kashmir	D Western Dry region	iv Sikkim	
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91	<p>Plant used as an indicator plant for PWP</p>												
	a) Groundnut	b) Rapeseed-mustard	c) Soybean	d) Sunflower	<b>d</b>								
92	<p>Which of the following statements is/are true?          A. Drainage is the most important management strategy in dryland agriculture.          B. Basic principle of dryland agriculture is increasing infiltration and decreasing runoff.          C. Based on time of occurrence drought is classified into 4 types.          D. Agronomic measures to conserve soil and water are mainly adopted in fields having slope of &lt;6%</p>												
	a) A, B, C & D	b) Only A & C	c) Only B	d) Only B & D	<b>d</b>								
93	<p>Choose the correct match for location of research institutions:</p> <table border="1"> <tr> <td>A. CAZRI</td> <td>i Hyderabad</td> </tr> <tr> <td>B. ICRAF</td> <td>ii Jodhpur</td> </tr> <tr> <td>C. ICARDA</td> <td>iii Nairobi</td> </tr> <tr> <td>D. ICRISAT</td> <td>iv Lebanon</td> </tr> </table>				A. CAZRI	i Hyderabad	B. ICRAF	ii Jodhpur	C. ICARDA	iii Nairobi	D. ICRISAT	iv Lebanon	
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94	<p>Two statements are given below: One is labelled as Assertion and the other is labelled as Justification          A. Assertion: Deep tillage is not normally recommended in dryland agriculture          B. Justification: Deep tillage can disrupt the soil structure and lead to increased water evaporation in dryland areas</p>												

	Choose the most appropriate answer from the options given below:				
	a) Both A & B are correct but B is not the correct explanation of A	b) Both A & B are true and B is the correct explanation of A	c) A is not correct but B is correct	d) A is correct but B is not correct	<b>b</b>
95	Choose the correct match for climate and humid months:				
	A. Arid	i. <2 months			
	B. Semiarid-dry	ii. 4.5-7.0 months			
	C. Semiarid-wet	iii. 2.0-4.5 months			
	D. Humid	iv. >7.0 months			
	a) A-iii, B-iv, C-i, D-ii	b) A-i, B-ii, C-iii, D-iv	c) A-i, B-iii, C-ii, D-iv	d) A-i, B-ii, C-iv, D-iii	<b>c</b>
96	Which one of the following crops is not suitable for relay cropping with rice?				
	a) Pea	b) Lathyrus	c) Linseed	d) Sesame	<b>d</b>
97	Gypsum requirement is more for:				
	a) Berseem	b) Groundnut	c) Lucerne	d) Redgram	<b>b</b>
98	Choose the correct match for salt tolerance of crops:				
	A. Tolerant	i Wheat			
	B. Semi tolerant	ii Onion			
	C. Moderately sensitive	iii Sugarbeet			
	D. Sensitive	iv Potato			
	a) A-iii, B-iv, C-ii, D-i	b) A-iv, B-iii, C-i, D-ii	c) A-iii, B-i, C-iv, D-ii	d) A-iii, B-iv, C-i, D-ii	<b>c</b>
99	Two statements are given below: One is labelled as Assertion and the other is labelled as Justification A. Assertion: Acid sulfate soils release sulfuric acid when drained. B. Justification: Acid sulfate soils contain iron sulfides, which oxidize upon drainage, releasing sulfuric acid and lowering soil pH. Choose the most appropriate answer from the options given below:				
	a) A is correct but B is not correct	b) Both A & B are true and B is the correct explanation of A	c) A is not correct but B is correct	d) Both A & B are correct but B is not the correct explanation of A	<b>b</b>
100	Which of the following statements is/are true? A. Due to poor drainage accumulation of water leads to water logging condition which leads to salt accumulation. B. Sodium adsorption ratio indicates the relative proportion of sodium to other anions. C. The saline soil can be easily improved with leaching of salts by using of good quality water and by providing good drainage systems. D. Electrical conductivity of saline-alkali soil is always less than 4 mhos/cm.				
	a) Only A, B & D	b) Only D	c) Only A & C	d) Only C & D	<b>c</b>
101	Choose the correct match for soil characteristics:				
	A. Saline	i Soils exhibiting both high salt content and high sodium levels			
	B Sodic	ii Soils with high levels of soluble salts			

	C Saline-sodic	iii Soils with normal/low levels of salts and sodium			
	D Non-Saline and non-sodic	iv Soils characterized by high levels of exchangeable sodium ions			
	a) A-ii, B-iv, C-iii, D-i	b) A-ii, B-iv, C-i, D-iii	c) A-ii, B-i, C-iii, D-iv	d) A-iii, B-iv, C-ii, D-i	<b>b</b>
10 2	What is the scientific name of six rowed barley?				
	a) <i>Hordeum distichum</i>	b) <i>Hordeum vulgare</i>	c) <i>Hordeum irregular</i>	d) <i>Hordeum bicolor</i>	<b>b</b>
10 3	Ginning percentage in cotton is calculated as:				
	a) $\frac{\text{Weight of seed cotton} \times \text{Weight of lint}}{\text{Weight of lint}}$	b) $\frac{\text{Weight of lint} \times 1}{\text{Weight of cotton s}}$	c) $\frac{\text{Weight of lint} \times 1}{\text{Weight of seed cot}}$	d) $\frac{\text{Weight of cotton seed}}{\text{Weight of seed cotto}}$	<b>c</b>
10 4	Which of the following statements is/are true? A. The basic aim of topping and desuckering in tobacco is to avoid lodging. B. Hybrid Napier grass is cross between Napier x Bajra. C. IIWBR stands for Imperial Institute of Wheat and Barley Research. D. Dough stage is the most critical stage of wheat for irrigation.				
	a) Only C	b) Only A & C	c) Only B	d) B & C	<b>c</b>
10 5	Given below are two statements, one is labelled as Assertion and the other is labelled as Justification A. Assertion: The grains should be dried properly in the sun before storing them. B. Justification: Freshly harvested grain contains a lot of moisture which has to be reduced before storing it. Choose the most appropriate answer from the options given below:				
	a) Both A & B are true but B is not the correct explanation of A	b) A is false but B is true	c) Both A & B are true and B is the correct explanation of A	d) B is false but A is true	<b>c</b>
10 6	Which of the following pulse crops is used as pulse, a vegetable and a green manure crop?				
	a) Greengram	b) Blackgram	c) Cowpea	d) Pea	<b>c</b>
10 7	Choose the correct match for suitable herbicide:				
	A. Pretilachlor	i Jute			
	B. 2,4-D	ii Maize			
	C. Atrazine	iii Wheat			
	D. Fluchloralin	iv Rice			
	a) A-i, B-ii, C-iii, D-iv	b) A-iv, B-iii, C-i, D-ii	c) A-iii, B-iv, C-i, D-ii	d) A-iv, B-iii, C-ii, D-i	<b>d</b>
10 8	Acid soil is generally not found in which of the following soil groups				
	a) Alluvial soil	b) Black soil	c) Laterite soil	d) Red soil	<b>b</b>

109	High salt concentration in soil leads to				
	a) Aggregation	b) Deflocculation	c) Dispersion	d) Flocculation	<b>d</b>
110	Which of the following statements is/are true? A. Puddling reduces particle density B. Organic matter reduces particle density C. Ploughing operation reduces particle density D. Central Soil Salinity Research Institute is located at Karnal				
	a) A, B, C & D	b) Only A & D	c) Only D	d) Only B & D	<b>d</b>
111	Which one of the following is generally used for correcting soil acidity?				
	a) Lime	b) Gypsum	c) Iron pyrites	d) Both (a) and (b)	<b>a</b>
112	Choose the correct match for permissible limit of boron content (ppm) in irrigation water:				
	A. <3		i Very high		
	B. 3-4		ii High		
	C. 5-10		iii Normal		
	D. >10		iv Low		
	a) A-iii, B-iv, C-ii, D-i	b) A-iv, B-iii, C-i, D-ii	c) A-i, B-ii, C-iii, D-iv	d) A-iii, B-iv, C-i, D-ii	<b>a</b>
113	Two statements are given below: One is labelled as Assertion and the other is labelled as Justification A. Assertion: The amount of BOD in the water is a measure of the amount of organic material in the water. B. Justification: Clear water has BOD less than 5 ppm whereas highly polluted water can have BOD value of 17 ppm or more. Choose the most appropriate answer from the options given below:				
	a) Both A & B are true and B is the correct explanation of A	b) Both A & B are correct but B is not the correct explanation of A	c) A is true but B is false	d) Both A & B are false	<b>b</b>
114	Which tree is used for reclamation of salt affected soil?				
	a) Prosopis	b) Eucalyptus	c) Acacia	d) Tamarind	<b>c</b>
115	Choose the correct match for EC and salinity hazard of irrigation water:				
	A. 250-750 $\mu\text{mhos/cm}$		i. Low salinity water		
	B. 750-2250 $\mu\text{mhos/cm}$		ii. Medium salinity water		
	C. 100-250 $\mu\text{mhos/cm}$		iii. High salinity water		
	D. > 2250 $\mu\text{mhos/cm}$		iv. Very high salinity water		
	a) A-iii, B-iv, C-i, D-ii	b) A-iv, B-iii, C-i, D-ii	c) A-ii, B-iii, C-i, D-iv	d) A-iii, B-iv, C-ii, D-i	<b>c</b>
116	Capillary movement of water is complemented by				Answer option (a,b,c,d)
	a) Stem elongation	b) Root extension	c) Leaf orientation	d) None of these	<b>b</b>
	pF refers to				

11 7	a) logarithm of H ion concentration	b) logarithm of free flow water	c) logarithm of soil moisture tension	d) logarithm of salt concentration	<b>c</b>
11 8	Correct order of irrigation terminologies with respect to amount of water involved during a given event of irrigation (WR stands for water requirement, IR for irrigation requirement, NIR for net irrigation requirement and E for evaporation)				
	a) $E > WR > NIR > IR$	b) $IR > WR > E > NIR$	c) $IR > WR > NIR > E$	d) $WR > IR > NIR > E$	<b>d</b>
11 9	A 1.5 ha wheat crop field was supplied with 6 cm depth of irrigation, compute how many litres of water has gone into the field.				
	a) 3 lakh	b) 4.5 lakh	c) 7.5 lakh	d) 9 lakh	<b>d</b>
12 0	Which of the following is not a component of the moisture potential in soil				
	a) matric potential	b) gravitational potential	c) turgor potential	d) osmotic potential	<b>c</b>
12 1	SI unit of pressure is				
	a) Joule	b) Pascal	c) ergs	d) None of these	<b>b</b>
12 2	The equilibrium soil moisture at given suction is ..... in desorption				
	a) smaller	b) equal	c) greater	d) None of these	<b>c</b>
12 3	The movement of irrigation water from the soil surface into and through the soil is called				
	a) Infiltration	b) Percolation	c) Water intake	d) Inter flow	<b>c</b>
12 4	The rate of flow of fluid through a unit cross section of a porous mass under a unit hydraulic gradient at 60° F is called				
	a) Hydraulic Coefficient	b) Permeability coefficient	c) Gravitational potential	d) Pressure potential	<b>b</b>
12 5	The relation between energy status and moisture content is referred to				
	a) Crop coefficient	b) Hysteresis	c) Cohesion	d) Passive absorption	<b>b</b>
12 6	Given below are two statements <b>Statement I:</b> Diffusion Pressure Deficit (DPD) of pure water is taken as zero. <b>Statement II:</b> Diffusion Pressure Deficit (DPD) is also always positive. In light of the above statements, choose the correct answer from the options given below				
	a) Both Statement I and Statement II are true	b) Both Statement I and Statement II are false	c) Statement I is true but Statement II is false	d) Statement I is false but Statement II is true	<b>a</b>
12 7	Given below are two statements <b>Statement I:</b> Osmotic pressure is always negative. <b>Statement II:</b> Osmotic potential is also always negative.				

	In light of the above statements, choose the correct answer from the options given below				
	a) Both Statement I and Statement II are true	b) Both Statement I and Statement II are false	c) Statement I is true but Statement II is false	d) Statement I is false but Statement II is true	<b>d</b>
12 8	<p>Given below are two statements, one is labelled as Assertion A and the other is labelled as Justification B</p> <p><b>A: Assertion:</b> Ratio between the area of crop irrigated and quantity of water applied to the crop is called as Delta</p> <p><b>B: Justification:</b> Any crop management practice aimed at economy in irrigation water application increases Delta</p> <p>In light of the above statements, choose the most appropriate answer from the options given below</p>				
	a) Both A and B are correct and B is the correct explanation of A	b) Both A and B are correct but B is NOT the correct explanation of A	c) Both A and B are incorrect	d) A is incorrect but B is correct	<b>c</b>
12 9	Percolation of water under pressure occurs when the tension is				
	a) $< 0.5$ atm.	b) $> 3$ atm.	c) 1-2 atm.	d) 2-3 atm.	<b>a</b>
13 0	Sprinkler irrigation is not suitable for				
	a) Sandy soil with high infiltration rate	b) Heavy clay soils with very low infiltration rate	c) Sandy loam soils	d) Clay loam soils	<b>b</b>
13 1	A small earth dam constructed to reserve water for a short period to control excessive run off and soil erosion is called				
	a) Cofferdam	b) Retention dam	c) Earth dam	d) Arch dam	<b>b</b>
13 2	The capillary water is held between tension of				
	a) 15 atm. And $\frac{1}{3}$ atm.	b) 31 atm. and $\frac{1}{3}$ atm.	c) 20 atm. And 25 atm.	d) 10 atm. And 13 atm.	<b>b</b>
13 3	An area of 25 ha is irrigated with 5 cumecs of water for 8 hrs and water stored in root zone is 36 cm. Calculate the field application efficiency?				
	a) 62%	b) 65%	c) 56%	d) 26%	<b>a</b>
13 4	Match the following				
	i. Advection		A. The passage of warm air through vegetation		
	ii. Oasis effect		B. Doorenbos and Prutt.		
	iii. Clothes line effect		C. The flowing of warm air over the top of field		
	iv. Modified Penman		D. Horizontal transfer of heat into or out of any field		

	a) i-D, ii-B, iii-A, iv-C	b) i-A, ii-D, iii-B, iv-C	c) i-B, ii-D, iii-C, iv-A	d) i-C, ii-D, iii-B, iv-A	<b>d</b>								
13 5	<p>Given below are two statements</p> <p><b>Statement I:</b> Organic matter = Organic carbon x 1.724</p> <p><b>Statement II:</b> Specific gravity of soil = 2.65 kg/m<sup>3</sup></p> <p>In light of the above statements, choose the correct answer from the options given below</p>												
	a) Statement I is false but Statement II is true	b) Statement I is true but Statement II is false	c) Both Statement I and Statement II are false	d) Both Statement I and Statement II are true	<b>d</b>								
13 6	<p>Given below are two statements, one is labelled as Assertion A and the other is labelled as Justification B</p> <p><b>A: Assertion:</b> Soil moisture content at Field Capacity is about 50% of saturation in medium textured soil but much less in the coarse textured sandy soil</p> <p><b>B: Justification:</b> It is amount of water retained by initially saturated soil after being subjected to a centrifugal force of 1000 times that of gravity for about half an hour.</p> <p>In light of the above statements, choose the most appropriate answer from the options given below</p>												
	a) Both A and B are correct and B is the correct explanation of A	b) Both A and B are correct but B is NOT the correct explanation of A	c) Both A and B are incorrect	d) A is incorrect but B is correct	<b>b</b>								
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13 9	<p>Which indices are used to quantify the effect of climate on soil formation</p>												
	a) Thornthwaith's PE	b) Precipitation	c) NSQ	d) All of these	<b>d</b>								
	Gypsum block for moisture determination is mainly based on												

140	a) Electrical resistance principle	b) Electrical capacitance	c) Electrical conductivity	d) Dielectric constant	<b>a</b>
141	Water potential is maximum in				
	a) Root	b) Stem	c) Nodules	d) Leaves	<b>a</b>
142	Pot culture method was given by				
	a) Leibig	b) Wilcox	c) Spillman	d) None	<b>d</b>
143	Q = CIA, where C implies				
	a) Rainfall coefficient	b) Runoff coefficient	c) Constant	d) Erodibility	<b>b</b>
144	DRIS approach was developed by				
	a) Olsen	b) Leibig	c) Beaufiles	d) Arnon	<b>c</b>
145	Which one of the following is not a correct statement regarding the changes in chemical reactions that takes place in submerged rice soil				
	a) Increase in pH of acid soil	b) Increase in Fe <sup>3+</sup> ion concentration in soil solution	c) Increase availability of native soil P	d) Reduction in availability of Zn	<b>b</b>
146	Which one of the following is a correct statement regarding “The process of Guttation takes place”				
	a) When the root pressure is high and the rate of transpiration is low	b) When the root pressure is low and the rate of transpiration is high	c) When the root pressure is equal to the rate of transpiration	d) When the root pressure as well as the rate of transpiration is high	<b>a</b>
147	Thermal conductivity of soil decreases with				
	a) Increase in organic matter	b) Increase in porosity	c) Decrease in soil moisture	d) Decrease in organic matter	<b>b</b>
148	What is the water potential of soil at submergence				
	a) 0 bar	b) 0.5 bar	c) 1.0 bar	d) 31 atm.	<b>a</b>
149	Alternate wetting and drying leads to formation of smaller aggregates particularly in				
	a) Coarse-textured soil	b) Fine textured soil	c) Medium textured soil	d) All the above	<b>b</b>
150	The average annual rainfall in India is approximately				
	a) 1090 mm	b) 1190 mm	c) 1290 mm	d) 1390 mm	<b>b</b>