



Test Date: 21 May 2016

PG-QP – 01

Time : 12.00 noon to 2.00 p.m.

Q. B. No. :

Entrance Test for the Course(s) : B.Ed. [CUJHD]

Roll Number :

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Test Center Code :

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Name of the Candidate :

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Signature of the Candidate : Signature of the Invigilator :

Instructions to Candidates

1. Do NOT open the Question Booklet until the Hall Superintendent gives the signal for the commencement of the examination.
2. Write your Name, Roll Number and Test Center Code (as found in the Admit Card) and sign in the space provided above.
3. After the commencement of the examination, open the Question Booklet. If the Question Booklet or the OMR Answer Sheet or both are not in good condition, then ask for immediate replacement. No replacement will be made 5 minutes after the commencement of the examination.
4. In the ANSWER SHEET (OMR) fill up / shade the required entries (Roll Number, Test Center Code, Test Paper Code, Question Booklet Number etc in the space provided) using **black/blue** ball point pen.
5. The paper is divided into **three** Parts : A candidate has to answer a total of **100** questions. Part – **A** : General awareness is compulsory for all candidates (**25 Q's**), Part – **B** : Teaching Aptitude is also compulsory for all candidates (**35 Q's**), Part – **C** consists of four Sections **I, II, III** and **IV** (Attempt **any one** Section as per the eligibility). Section – **I** : Social Science (**40 Q's**) ; Section – **II** : Language (**40 Q's**); Section – **III** : Physical Science and Mathematics (**40 Q's**), Section – **IV** : Life Sciences (**40 Q's**).
6. All questions are in MCQ pattern. There is only **one** most appropriate correct answer for **each** question.
7. **All** questions carry equal marks. **There will be negative marking in CUCET-2016**. Each correct answer carries **03** marks and for each wrong answer, **01** mark will be deducted. Questions not attempted will not be assessed and hence will not be considered for preparing final merit list.
8. Darken only **one** circle for each question. If you darken more than one circle for the question, it will be deemed as incorrect answer. Any change in the answer once marked is **NOT** allowed.
9. Use the Answer Sheet carefully. No spare Answer Sheet will be given.
10. After completion of examination, a candidate will be allowed to take with him Question Booklet and Candidate's copy of OMR answer sheet. However, **each candidate must ensure to handover original copy of OMR sheet to the Invigilator**. In case a candidate takes away the original OMR answer sheet, his/her examination will be treated as cancelled.
11. No candidate will be allowed to leave the examination hall before completion of Entrance Test. Total time allowed for the paper is 2 Hours.
12. No candidate will be allowed to leave the examination hall before completion of Entrance Test. Total time allowed for the paper is 2 Hours.
13. Calculators, Tables or any other calculating devices, Mobiles, Pagers, Booklets, Papers etc. are strictly prohibited for this examination.
14. Rough work should be done on the blank space provided in this Question Booklet. No extra paper will be provided.

P.T.O.



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SPACE FOR ROUGH WORK

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**PART – A**

1. Where will be 8th BRICS summit held ?
A) India B) Russia C) Brazil D) China
2. What was the time period of Indus Civilisation/ Harappan Civilization ?
A) 2400 BC/1700 BC B) 2400 BC/1750 BC
C) 2500 BC/1700 BC D) 2500 BC/1750 BC
3. Which is the oldest text in the world ?
A.) Yajur Veda B) Atharva Veda C) Rig Veda D) Sam Veda
4. Gautama Buddha renounced home at the age of
A) 26 B) 27 C) 28 D) 29
5. Tipu Sultan was the ruler of .
A) Bengal B) Karnataka
C) Hyderabad D) Mysore
6. Who was last Governor General of free India ?
A) Mountbatten B) Linlithgow
C) Rajagopalachari D) Wavell
7. Constitution of India was adopted by Constituent Assembly on
A) 25th October, 1948
B) 25th October 1951
C) 26th November 1949
D) 26th January 1950
8. Light from the sun reaches the earth in
A) 8 Minuntes B) 8 Seconds C) 8 Hours D) 1 Year
9. Who was the Political Guru of Netaji ?
A) Patel B) Gokhale C) C.R. Das D) Tilak



10. To be elected, the President of India must have attained the age of
A) 25 B) 35 C) 30 D) 40
11. Which of the following group of gases contribute to the 'Green House Effect' ?
A) Carbon tetrafluoride and Nitrous oxide
B) Carbon monoxide and Sulphur dioxide
C) Ammonia and Ozone
D) Carbon dioxide and Methane
12. Which of the following diseases is not transmitted by tiger mosquitoes ?
A) Dengue
B) Chikungunya
C) Japanese Encephalitis
D) Yellow Fever
13. Plants receive their nutrients mainly from
A) Atmosphere B) Chlorophyll C) Light D) Soil
14. The disease caused by deficiency of protein in children is called
A) Pellagra B) Marasmus C) Beri-Beri D) Rickets
15. Bamboo is classified as
A) Bush B) Tree C) Grass D) Weed
16. The best indicator of economic development of any country is
A) Its agriculture
B) Its transport
C) Its Gross production
D) Its per capita income
17. The concept of Economic Planning in India is derived from
A) USA B) UK C) Australia D) Russia
18. Which Five Year Plan is also known as "Gadgil Yojana" ?
A) Second Five Year Plan B) Third Five Year Plan
C) Fourth Five Year Plan D) Fifth Five Year Plan



33. A competent teacher must have a sound knowledge about
- A) Practice, Concept, Theory and Research
 - B) Theory, Research, Practice and Concept
 - C) Concept, Theory, Practice and Research
 - D) Research, Practice, Concept and Theory
34. Maximum participation of students is possible in teaching through
- A) Lecture method
 - B) Discussion method
 - C) Textbook method
 - D) Audio-visual aids
35. Discussion Method can be used when
- A) The topic is very difficult
 - B) The topic is easy
 - C) The topic is lengthy
 - D) All of the above
36. The main aim of teaching is
- A) To develop only reasoning
 - B) To develop only thinking
 - C) Both (A) and (B)
 - D) To give information
37. The quality of teaching is reflected
- A) By the attendance of students in the class
 - B) By the pass percentage of students
 - C) By the quality of questions asked by students
 - D) By the duration of silence maintained in the class
38. If a student is constantly rubbing his eyes and is inattentive during blackboard work, he is having
- A) Adjustment problem
 - B) Hearing problem
 - C) Visual problem
 - D) All of the above
39. The professional requirement of a teacher as explained in the UNESCO publication is/are
- A) mastery over the subject and competency for teaching
 - B) innovativeness in approach and teaching strategies
 - C) justice to the profession
 - D) all of the above
40. Kindergarten (KG) system of education is indebted to
- A) Dewey
 - B) Froebel
 - C) Plato
 - D) Spencer



41. Which of the following must be the qualities of a teacher, except ?
- A) Patience and tolerance B) Sweet, polite and clear voice
C) Superstitions D) Good communication skill
42. All of the following statements about a teacher are correct except that she/he is
- A) A friend, guide and philosopher
B) Teacher that the students do not know
C) The leader in the class
D) Changes his attitudes and behaviour according to the need of the society
43. Teaching model is a way to
- A) Teach in a formal as well as informal way
B) Select such stimulus so that, the students may give expected feedback
C) Talk and think about instruction, which may contain facts in organised and classified manner
D) Both (A) and (B)
44. If a student is absent from the classes for a long time
- A) you will try to know the cause of his absence
B) you would try to solve his problems or help him
C) both (A) and (B)
D) refer to a psychiatrist
45. Who has the least chance of becoming an effective teacher ?
- A) One who is a strict disciplinarian B) One who knows his subject well
C) One who has no interest in teaching D) One who teaches moral values
46. Which of the following is fast step of teaching ?
- A) Presentation B) Application
C) Comparison D) Generalisation
47. Which of the following is /are correct ?
- A) A teacher should introduce the lesson before he starts teaching
B) A teacher should have command over his language
C) A teacher should have command over his subject
D) All of these



48. Effective teaching involves
- | | |
|----------------------------------|--------------------|
| A) Teacher dominance | B) Pupil dominance |
| C) Teacher and pupil interaction | D) Silence |
49. During lecture in classroom, some students hesitate to say that they are unable to understand your lecture. What may be the reason for this ?
- A) You are unable to communicate effectively
 B) Your educational methodology is inadequate
 C) Students fear you
 D) There is a cordial relation between you and your students
50. If a teacher is cracking filthy jokes in a class and you are unable to stop him, then what will you do ?
- A) Persuade him/her decently not to waste their time in filthy jokes
 B) Live in isolation or change the group
 C) Instruct him to mind his/her language in class
 D) Be critical and remind him for the nobility of their jobs
51. The teacher has been glorified by the phrase “Friend, philosopher and guide” because
- A) He has to play all vital roles in the context of society
 B) He transmits the high value of humanity to students
 C) He is the great reformer of the society
 D) He is a great patriot
52. A teacher’s major contribution towards the maximum self-realization of the student is affected through
- A) Constant fulfillment of the student’s needs
 B) Strict control of class-room activities
 C) Sensitivity to students’ needs, goals and purposes
 D) Strict reinforcement of academic standards
53. Teacher’s primary responsibility lies in
- | | |
|-------------------------------------|--------------------------|
| A) Planning educational experiences | B) Implementing policies |
| C) Keeping students record | D) All of the above |
54. How a teacher should behave with the students ?
- | | | | |
|------------|-----------|-----------|-----------|
| A) General | B) Father | C) Friend | D) Leader |
|------------|-----------|-----------|-----------|



55. If a girl student requests you to collect her posts at your address what would you like to do in this case ?
- A) You would not give permission as it is against your own principles
 - B) You will never allow her suspecting a foul game
 - C) As a teacher you will allow her
 - D) You will permit her because you may get in touch with her
56. The most important task in teaching is
- A) Making monthly reports and maintaining records
 - B) Making assignments and hearing recitations
 - C) Directing students in the development of experience
 - D) None of these
57. Why should a student not be punished severely ?
- A) He may quarrel with a teacher
 - B) He may leave the school and join another
 - C) His parent may quarrel with the teacher
 - D) The student may develop a negative attitude towards his studies, teacher and school
58. The teaching is not thought as a process of
- A) Directing the activities of people
 - B) Listening the recitation of pupils
 - C) Indoctrinating adult ideas to young people
 - D) Working with them
59. A teacher can help adolescent to overcome his special problems, and help him to adjust to the environment. Which of the following attitude, they should not ?
- A) Impart right information about sex
 - B) Redirect the energies of the adolescent to fruitful channels through sports and other constructive activities
 - C) Have sympathetic attitude towards others
 - D) Put forth current cases to students
60. A teacher can establish rapport with his pupil by
- A) Becoming a figure of authority
 - B) Impressing them with knowledge and skill
 - C) Playing the role of a guide with desire to help them
 - D) Becoming a friend to the pupils



PART – C

**SECTION – I, II, III and IV (Attempt any one Section as per the Eligibility)
(SECTION – I : SOCIAL SCIENCE)**

61. The average fixed cost curve is a rectangular hyperbola because
- TFC remains constant during production in the short run
 - TFC decreases as more units are produced
 - TFC is zero at zero level of output
 - TFC is zero at zero level of input
62. A producer is said to be in equilibrium under perfect competition when
- $AR = MR = \text{Price}$ and MC curve is falling when $MC = \text{Price}$
 - $\text{Price} = MC$ and MC curve is rising at the point of equality
 - $\text{Price} > MC$ & MC is falling
 - $MR = MC$
63. Which one of the following is the difference between Narrow Money & Broad Money ?
- DD
 - TD
 - Post Office Deposits
 - OD
64. NDP_{MP} will be equal to
- $NDP_{FC} + \text{Depreciation}$
 - $NDP_{FC} + \text{Indirect Taxes}$
 - $NDP_{FC} - \text{Subsidies}$
 - $NDP_{FC} + \text{Net Indirect Taxes}$
65. Which of the following is an Indirect Tax ?
- Income Tax
 - Entertainment Tax
 - Profit Tax
 - Wealth Tax
66. The minimum value of the multiplier is
- Zero when MPC is one
 - One when MPC is zero
 - Infinity when MPC is one
 - Infinity when MPC is zero
67. Which of the following is used to combat excess demand in an economy ?
- Increase in bank rate
 - Reduction in C.R.R.
 - Reduction in S.L.R
 - All the above
68. Marginal propensity to consume is
- Ratio of change in income to a change in consumption over a period of time
 - Ratio of change in consumption to a change in income over a period of time
 - Never greater than one
 - (B) & (C)



69. When there are economies of scale
- A) $MC > AC$, so cost-output elasticity is greater than AC
 - B) $MC < AC$, so cost-output elasticity is less than AC
 - C) $MC < AC$, so cost-output elasticity is greater than one
 - D) $MC < AC$, so cost-output elasticity is less than one
70. National Rural Employment Programme started in
- A) 1979
 - B) 1980
 - C) 1981
 - D) 1982
71. Who among the following supported the theory of Natural Right ?
- A) Locke
 - B) Hobbes
 - C) Thomas Paine
 - D) Hegel
72. Gandhian Philosophy believes that
- A) Means justify the ends
 - B) End justify the means
 - C) Means can never justify the ends
 - D) None of the above
73. The Mechanistic Theory of Organization is also referred to as the
- A) Classical Theory
 - B) Bureaucratic Theory
 - C) Scientific Management Theory
 - D) None of the above
74. Name the School of International Relations that polarizes national interest and security over ideology, moral concerns and social reconstructions.
- A) Idealism
 - B) Constructivism
 - C) Realism
 - D) Traditionalism
75. Which one of the following is not a principle of Panchasheel ?
- A) Mutual respect for each other's territorial integrity and sovereignty
 - B) Non-aggression
 - C) Non-alignment
 - D) Peaceful-coexistence



83. The thickness of earth crust is about
 A) 25 Km B) 30 Km C) 35 Km D) 40 Km
84. Which is not a type of rock ?
 A) Igneous B) Sedimentary
 C) Metamorphic D) Sedomorphic
85. Which is the longest continental mountain range in the world ?
 A) The Andes B) The Alps
 C) The Rockies D) The Himalayas
86. Which river is also known as Yellow River ?
 A) Hwang–Ho B) Amazon C) Damodar D) Cauvery
87. The oldest rocks in India are reported from
 A) Shivalik range, Punjab
 B) Dharwar region, Karnataka
 C) Aravalli range, Rajasthan
 D) Vindhyan range, Madhya Pradesh
88. The Tropic of Cancer passes through
 A) India and Iran B) Iran and Pakistan
 C) India and Soudi Arabia D) Iraq and Iran
89. The watershed between India and Myanmar is formed by
 A) The Naga hills B) The Jaintia hills
 C) Khasi hills D) The Garo hills
90. Which country has the largest coast line ?
 A) USA B) Brazil C) Australia D) Canada
91. Which was the largest site of Indus Civilization ?
 A) Mohenjodaro B) Lothal
 C) Chanhudaro D) Dholavira
92. Vedic Culture was from
 A) 1500 BC to 500 BC B) 1450 BC to 550 BC
 C) 1400 BC to 500 BC D) 1300 BC to 400 BC



93. Ajatasatru was son of
A) Bimbisara
B) Udayin
C) Shisunaga
D) None of above
94. The Sarvodaya Movement was initiated by
A) J P Narayan
B) Mahatma Gandhi
C) Vinoba Bhave
D) Bhagat Singh
95. With whose permission did the English set up their first factory in Surat ?
A) Akbar
B) Jahangir
C) Shahjahan
D) Aurangzeb
96. Who put an end to the system of Dual Government in Bengal ?
A) Regulating Act
B) Clive
C) Warren Hastings
D) British Parliament
97. First Governor-General of Bengal was
A) William Bentinck
B) Robert Clive
C) Warren Hastings
D) Sir Charles Metcalfe
98. What is the meaning of MatiJnana in Jainism ?
A) Perception through activity of sense organs
B) Knowledge revealed by scriptures
C) Clairvoyant perception
D) Telephonic knowledge
99. To conquer and annex Peshawar and Punjab, Mahmud of Ghazni defeated
A) Ghurids
B) Arabs
C) Karkotakas
D) Hindushahis
100. The French Revolution took place in the year
A) 1786
B) 1787
C) 1788
D) 1789



(SECTION – II : LANGUAGE)

101. नास्तिकदर्शनानि कति ?
 A) पञ्च B) त्रीणि C) चत्वारि D) षट्
102. संस्कृतसाहित्यस्य आदिकविः कः ?
 A) वाल्मीकिः B) व्यासः C) भट्टनारायणः D) दण्डी
103. किरातार्जुनीयम् महाकाव्ये कति सर्गाः सन्ति ?
 A) पञ्चदश B) षोडशः C) सप्तदश D) अष्टादश
104. च वर्णस्य उच्चारणस्थानं वर्तते
 A) तालु B) कण्ठः C) मूर्धा D) कण्ठतालुः
105. पीताम्बरः इत्यत्र कः समासः ?
 A) तत्पुरुषः B) द्वन्द्वः C) द्विगुः D) बहुव्रीहिः
106. शिवराजविजयम् इति कस्य कृतिः ?
 A) कालिदासस्य B) अम्बिकादत्तव्यासस्य
 C) भवभूतेः D) माघस्य
107. रामायणे कति काण्डानि सन्ति ?
 A) एकादशः B) द्वादशः C) त्रयोदशः D) सप्त
108. उपैति इत्यत्र कः सन्धिः ?
 A) गुण B) दीर्घ C) विसर्ग D) वृद्धि
109. चतुर्विंशतिसाहस्रीसंहितायाः कर्ता कः ?
 A) वाल्मीकिः B) वेदव्यासः C) माघः D) अश्वघोषः
110. शुष्क इत्यत्र कः प्रत्ययः ?
 A) क B) ष C) क्त D) श
111. देवकीनन्दनखत्री रचित चन्द्रकान्तासन्तती किस प्रकार का उपन्यास है ?
 A) ऐतिहासिक B) तिलस्मी C) सामाजिक D) जासूसी



112. श्वेतांक किस उपन्यास का पात्र है ?
 A) गोदान B) चित्रलेखा C) मृगन्यनी D) सुहागकानुपुर
113. आधुनिक मीरा की संज्ञा किसे दी जाती है ?
 A) सहजोबाई B) सुभद्राकुमारी चैहान
 C) विद्यावतिकोकिल D) महादेवीवर्मा
114. पेट में दाढी होना मुहावरे के अर्थ के लिये नीचे दिये गये विकल्पों में सही विकल्प का चयन करें ।
 A) बहुत गम्भीर B) बहुत चतुर
 C) सुलझाहुआ D) मन्दबुद्धि
115. छायावाद का प्रवर्तन कब हुआ ?
 A) आधुनिक काल में B) वीरगाथा काल में
 C) भक्ति काल में D) रीति काल में
116. आकाशदीप कहानी किसकी लिखी है ?
 A) भगवती चरणवर्मा B) जयशंकर प्रसादवर्मा
 C) चन्द्रधरशर्मागुलेरी D) जैनेन्द्र
117. छात्रों को हिन्दी साहित्य के इतिहास की जानकारी देना किस प्रकार का उद्देश्य है ?
 A) ज्ञानात्मक B) सृजनात्मक C) कौशलात्मक D) भावनात्मक
118. रीतिकाल यह नाम किसके द्वारा प्रदत्त है ?
 A) रामचन्द्रशुक्ल B) विश्वनाथप्रसाद
 C) भारतेन्दु हरिश्चन्द्र D) जयशंकर प्रसाद
119. वैराग्य संदीपनी किसकी रचना मानी जाती है ?
 A) सूरदास B) मीराबाई
 C) तुलसीदास D) कबीरदास
120. प्रकृतिवाद कहना किसे अधिक समीचीन होगा ?
 A) प्रयोगवाद B) हालावाद
 C) लोकायतन D) छायावाद

**(SECTION – III : PHYSICAL SCIENCE AND MATHEMATICS)**

141. Who is regarded as father of modern Chemistry ?
A) C. V. Raman B) Lavoisier C) Rutherford D) Einstein
142. Which is not a type of elements ?
A) Metals B) Gases C) Non Metals D) Metalloids
143. Which acid is present in Lemon ?
A) Marlic Acid B) Citric acid C) Lactic acid D) Tartaric acid
144. Find the number of atoms in a cubic based unit cell having one atom on each corner and two atoms on each diagonal.
A) 9 B) 13 C) 5 D) 18
145. Brass is a type of _____ crystal.
A) Covalent B) Ionic C) Metallic D) None of these
146. A NaCl crystal is found to have CsCl structure because it might have been subjected to
A) High temperature B) Low temperature C) High pressure D) Low pressure
147. The particles when placed in the adjacent rows show a horizontal as well as vertical alignment and form squares. This type of packing is known as
A) Hexagonal close packing
B) Square close packing
C) Cubic close packing
D) Both (B) and (C)
148. Thermodynamic principles are applicable
A) Only to the bulk of matter
B) Only to an individual atom or molecule
C) Only to the bulk of matter and not to individual atom or molecule
D) None of these
149. A system which can exchange only energy but not matter with the surrounding is known as
A) closed system B) open system
C) isolated system D) none of these



150. A body is moving along a circular path with variable speed. It has
- A) a radial acceleration
 - B) a tangential acceleration
 - C) zero acceleration
 - D) both tangential and radial accelerations
151. A body is travelling in a circle at constant speed. It
- A) has constant velocity
 - B) has no acceleration
 - C) has an inward acceleration
 - D) has an outward radial acceleration
152. A body of mass 100 grams, tied at the end of a string of length 3 m rotates in a vertical circle and is just able to complete the circle. If the tension in the string at its lowest point is 3.7 N, then its angular velocity will be ($g = 10 \text{ m/s}^2$)
- A) 4 rad/s
 - B) 3 rad/s
 - C) 2 rad/s
 - D) 1 rad/s
153. A body of mass 500 gram is rotating in a vertical circle of radius 1 m. What is the difference in its kinetic energies at the top and the bottom of the circle ?
- A) 4.9 J
 - B) 19.8 J
 - C) 2.8 J
 - D) 9.8 J
154. A cyclist turns around a curve at 15 miles per hour. If he turns at double the speed, the tendency of overturn is
- A) Doubled
 - B) Quadrupled
 - C) Halved
 - D) Unchanged
155. A frictional track ABCDE ends in a circular loop of radius R, body slides down the track from point A which is at a height h of 5 cm. Maximum value of R for the body to successfully complete the loop is
- A) 5 cm
 - B) $\frac{15}{4}$ cm
 - C) $\frac{1}{3}$ cm
 - D) 2 cm
156. A cyclist goes round a circular path of circumference 343 m in $\sqrt{22}$ s. The angle made by him, with the vertical is
- A) 42°
 - B) 43°
 - C) 44°
 - D) 45°



166. A man can row upstream at 8 kmph and downstream at 13 kmph. The speed of the stream is
 A) 10.5 km/hr B) 5 km/hr C) 4.2 km/hr D) 2.5 km/hr
167. 2 trains starting at the same time from 2 stations 200 km apart and going in opposite direction cross each other at a distance of 110 km from one of the stations. What is the ratio of their speeds ?
 A) 18:4 B) 7: 3
 C) None of these D) 11:9
168. $\frac{4}{15}$ of $\frac{5}{7}$ of a number is greater than $\frac{4}{9}$ of $\frac{2}{5}$ of the same number by 8. What is half of that number ?
 A) 316 B) 315 C) 314 D) 311
169. The percentage profit earned by selling an article for Rs.1,920/- is equal to the percentage loss incurred by selling the same article for Rs. 1,280/-. At what price should the article be sold to make 25% profit ?
 A) Rs. 2,000 B) Rs. 2,200
 C) Rs. 2,400 D) Data inadequate
170. A Radiocarbon is produced in the atmosphere as a result of
 A) Collision between fast neutrons and nitrogen nuclei present in the atmosphere
 B) Action of ultraviolet light from the sun on atmospheric oxygen
 C) Action of solar radiations particularly cosmic rays on carbon dioxide present in the atmosphere
 D) lightning discharge in atmosphere
171. A tank is filled in five hours by three pipes A, B and C. The pipe C is twice as fast as B and B is twice as fast as A. How much time will pipe alone take to fill the tank ?
 A) 20h
 B) 25h
 C) 35h
 D) Can not be determined
172. If a person walks at 14 K.m per hour instead of 10 Km. per hour, he would have walked 20 K.m more. The actual distance travel by him is
 A) 50 Km B) 56 Km C) 70 Km D) 80 Km



173. A and B can together finish a work in 30 days. They work together for 20 days then B left. After another 20 days, A finished the remaining work. In how many days, A alone can finish the work ?
A) 40 Days B) 50 Days C) 54 Days D) 60 Days
174. Twenty women can do a piece of work in 16 days. Sixteen men can complete that work in 15 days. What is the ratio between the capacity of a man and a woman ?
A) 3:4 B) 4:3 C) 5:3 D) 3:5
175. Siphon will fail to work if
A) The densities of the liquid in the two vessels are equal
B) The level of the liquid in the two vessels are at the same height
C) Both its limbs are of unequal length
D) The temperature of the liquids in the two vessels are the same
176. A die is rolled. What is the probability that the number rolled is greater than 2 and even ?
A) $1/2$ B) $1/3$ C) $2/3$ D) $5/6$
177. Matrix A has 4 rows and 3 columns, and Matrix B has 3 rows and 2 columns. The Matrix AB will have
A) 4 rows and 2 columns B) 5 rows and 3 columns
C) 2 rows and 4 columns D) 3 rows and 5 columns
178. A gardener brought 5 rabbits, after 2 months rabbits became 10, and after 4 months they became 20. If the growth continues on the same ratio, what would be the amount of rabbits after 1 year ?
A) 300 B) 425 C) 535 D) 635
179. Which is not a transition element ?
A) Sodium B) Iron
C) Cobalt D) Copper
180. Choose the molecule that is incorrectly matched with the electronic geometry about the central atom.
A) CF_4 - tetrahedral B) $BeBr_2$ - linear
C) H_2O - tetrahedral D) PF_3 - pyramidal



(SECTION – IV : LIFE SCIENCES)

181. Acoelomates are characterized by
- A) The absence of cavity surrounding the internal organs
 - B) The presence of huge body cavity, as in case of terrestrial animals
 - C) The presence of air sacs, as in case of birds
 - D) The absence of brain in a group of extinct species
182. Identify the phylum that is characterized by the animals that have segmented appendages.
- A) Cnidaria
 - B) Porifera
 - C) Arthropoda
 - D) Mollusca
183. Which of the following proteins contain a modified amino acid – desmosine ?
- A) Keratin
 - B) Gelatin
 - C) Elastin
 - D) Collagen
184. Which of the following statements about meiosis is not true?
- A) Kinetochores of sister chromatids attach to opposite poles in meiosis I
 - B) Kinetochores of sister chromatids attach to opposite poles in meiosis II
 - C) Chiasma is formed in Prophase I
 - D) Homologous chromosomes are segregated in meiosis I
185. When a marine fish is placed in fresh water, it dies because
- A) Entry of water and it floats
 - B) Exit of water and shrinks
 - C) Deficiency of salts
 - D) Deficiency of nutrients
186. Deepest enriched soil with nutrients is present at
- A) Tropical rain forests
 - B) Dry deciduous forests
 - C) Grasslands
 - D) Conifers
187. A non harmful species copies a harmful and tasteless form, the type of mimicry shown is
- A) Bateson
 - B) Mullerian
 - C) Darwinian
 - D) Morganarian
188. Cysteine is not an essential amino acid in human, since we have the machinery to synthesize cysteine from other two amino acids namely _____ and serine.
- A) Methionine
 - B) Selenocysteine
 - C) Citrulline
 - D) Hydroxyproline



198. DNA replication is one of the most important cellular activity. At what stage the replication of DNA takes place ?
- A) During prophase 1 of meiosis
 - B) During metaphase of mitosis
 - C) During interphase of two mitotic cycle
 - D) During G1 phase of cell cycle

199. Match the following

- | | |
|--------------|------------------------|
| L. Anthrax | 1. Monoclonal antibody |
| M. Rabies | 2. Hormone |
| N. Hepatitis | 3. Bacillus sp. |
| O. Humulin | 4. Zoonotic disease |
| P. Abzyme | 5. Recombinant vaccine |

The correct answer is :

- A) L-3; M-4; N-5; O-2; P-1
- B) L-5; M-4; N-3; O-2; P-1
- C) L-1; M-3; N-4; O-5; P-2
- D) L-2; M-1; N-5; O-3; P-4

200. Bacterial cell walls have

- | | |
|-----------|-----------------|
| A) Murein | B) Glycoprotein |
| C) Chitin | D) Keratin |

201. Basic unit of classification is

- | | |
|------------|------------|
| A) Genus | B) Species |
| C) Variety | D) Family |

202. Structural component of chlorophyll among the following is

- | | |
|-------|-------|
| A) Mg | B) Zn |
| C) Mn | D) Fe |

203. In *Pisumsativum* , yellow seeds are dominant to green. If a heterozygous yellow seeded plant is crossed with a green seeded plant, what ratio of yellow and green seeded plant would you expect in F1 generation ?

- | | |
|--------|--------|
| A) 3:1 | B) 1:1 |
| C) 9:1 | D) 1:3 |



204. Which step in translation does not consume high energy phosphate bond ?
- A) Translocation
 - B) Peptidyl transferase reaction
 - C) Amino acid activation
 - D) Aminoacyl tRNA binding to A-Site
205. The group of enzymes that cut DNA molecules at specific sites are known as
- A) DNA ligase
 - B) DNA polymerase
 - C) Restriction endonuclease
 - D) Reverse transcriptase
206. Growth promoting hormones are
- A) IAA, GA and ABA
 - B) IAA, GA and ethylene
 - C) IAA, IBA and cytokinin
 - D) IAA, cytokinin and GA
207. Which of the following is commonly known as a green mould ?
- A) Aspergillus
 - B) Pythium
 - C) Mucor
 - D) Penicillium
208. An important function of synergids in the embryo sac is to
- A) Push the pollen tube into the egg
 - B) Nourish the embryo
 - C) Serve as the sac of pollen tube discharge
 - D) Protect the egg from damage by the pollen tube
209. Heterocyst used to be present in
- A) Blue green algae
 - B) Algae
 - C) Fungus
 - D) Lichens



210. In the leaves of C_4 plants, malic acid formation during CO_2 fixation occurs in the cells of
- A) Epidermis
B) Mesophyll
C) Bundle sheath
D) Phloem
211. Ecosystem is mainly concerned with
- A) energy flow and nutrient recycling
B) population
C) community
D) species
212. The gas that contributes most to the Greenhouse Effect is
- A) Methane (CH_4)
B) Carbon dioxide (CO_2)
C) Nitrous oxide (N_2O)
D) All of the above
213. Yeast, used in making bread is a
- A) Fungus
B) Plant
C) Bacteria
D) Seed
214. Which of the following is called as the amphibians of the plant kingdom ?
- A) Algae
B) Fungi
C) Bryophytes
D) Pteridophytes
215. A bisexual flower which never opens in its life span is called
- A) Homogamous
B) Heterogamous
C) Polygamous
D) Cleistogamous



216. Which of the following constitutes the best definition of fruits ?
- A) A product of the flower
 - B) A product of ovary
 - C) Post fertilization product of pistil
 - D) A body that contains seeds
217. A fruit which develops from condensed inflorescence is called
- A) Simple Fruit
 - B) An eaterio of fruit
 - C) An aggregate fruit
 - D) A composite fruit
218. The edible portion of coconut is
- A) Endoderm
 - B) Mesocarp
 - C) Seed coat
 - D) Pericarp
219. Pollination is best defined as
- A) Germination of pollen grains
 - B) Visiting flowers by insects
 - C) Transfer of pollen from anther to stigma
 - D) Growth of pollen tube in ovule
220. Intine of pollen grain is composed of
- A) Lipid and protein
 - B) Cellulose and pectin
 - C) Pectin and lignin
 - D) Lignin and cutin
-



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