

17P/216/22 (i)

(To be filled up by the candidate by blue/black ball-point pen)

Roll No.

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Serial No. of OMR Answer Sheet

2017

47

Day and Date

(Signature of Invigilator)

INSTRUCTIONS TO CANDIDATES

(Use only blue/black ball-point pen in the space above and on both sides of the Answer Sheet)

1. Within 30 minutes of the issue of the Question Booklet, check the Question Booklet to ensure that it contains all the pages in correct sequence and that no page/question is missing. In case of faulty Question Booklet bring it to the notice of the Superintendent/Invigilators immediately to obtain a fresh Question Booklet.
2. Do not bring any loose paper, written or blank, inside the Examination Hall *except the Admit Card without its envelope.*
3. A separate Answer Sheet is given. It should not be folded or mutilated. A second Answer Sheet shall not be provided. Only the Answer Sheet will be evaluated.
4. Write your Roll Number and Serial Number of the Answer Sheet by pen in the space provided above.
5. On the front page of the Answer Sheet, write by pen your Roll Number in the space provided at the top and by darkening the circles at the bottom. Also, wherever applicable, write the Question Booklet Number and the Set Number in appropriate places.
6. No overwriting is allowed in the entries of Roll No., Question Booklet no. and Set no. (if any) on OMR sheet and Roll No. and OMR sheet no. on the Question Booklet.
7. Any change in the aforesaid entries is to be verified by the invigilator, otherwise it will be taken as unfair means.
8. Each question in this Booklet is followed by four alternative answers. For each question, you are to record the correct option on the Answer Sheet by darkening the appropriate circle in the corresponding row of the Answer Sheet, by pen as mentioned in the guidelines given on the first page of the Answer Sheet.
9. For each question, darken only one circle on the Answer Sheet. If you darken more than one circle or darken a circle partially, the answer will be treated as incorrect.
10. Note that the answer once filled in ~~it~~ cannot be changed. If you do not wish to attempt a question, leave all the circles in the corresponding row blank (such question will be awarded zero marks).
11. For rough work, use the inner back page of the title cover and the blank page at the end of this Booklet.
12. Deposit only OMR Answer Sheet at the end of the Test.
13. You are not permitted to leave the Examination Hall until the end of the Test.
14. If a candidate attempts to use any form of unfair means, he/she shall be liable to such punishment as the University may determine and impose on him/her.

Total No. of Printed Pages : 32

(उपरोक्त निर्देश हिन्दी में अन्तिम आवरण पृष्ठ पर दिये गए हैं।)

SEAL

40/

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ROUGH WORK
रफ़ कार्य

FA

Misc. Zoology Code No (484)

2017

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No. of Questions : 120

Time : 2 Hours

Full Marks : 360

Note : (1) Attempt as many questions as you can. Each question carries 3 (Three) marks. One mark will be deducted for each incorrect answer. Zero mark will be awarded for each unattempted question.

(2) If more than one alternative answers seem to be approximate to the correct answer, choose the closest one.

01. Which type of cleavage occurs in most of the protostomes ?

- | | |
|------------|----------------|
| (1) Radial | (2) Bilateral |
| (3) Spiral | (4) Elliptical |

02. Which of the following echinoderms resembles the ancestral form ?

- | | |
|----------------|-----------------|
| (1) Sea star | (2) Sea lily |
| (3) Sea urchin | (4) Sand dollar |

03. Larva of gastropoda is :

- | | |
|-----------------|-------------|
| (1) Trochophore | (2) Veliger |
| (3) Nauplius | (4) Pluteus |

04. The larva of crustaceans are called as :

- | | |
|-----------------|-------------|
| (1) Trochophore | (2) Pluteus |
| (3) Naupilus | (4) Veliger |

05. Which class of phylum Cnidaria lacks a medusa stage is :

- (1) Hydrazoa
- (2) Anthozoa
- (3) Scyphozoa
- (4) None of the above

06. Holothuria is :

- (1) *Biradial* symmetrical
- (2) Radial symmetrical
- (3) Bilateral symmetrical
- (4) Spherical symmetrical

07. Palaemon has :

- (1) 18 pairs of appendages
- (2) 19 pairs of appendages
- (3) 20 pairs of appendages
- (4) 21 pairs of appendages

08. A cnidocyte is a specialized cell which helps in :

- (1) Digesting food
- (2) Sensing light
- (3) Capturing food
- (4) Circulating water

09. Which stage of liver fluke is infectious to human ?

- (1) Sporocyst
- (2) Metacercaria
- (3) Cercaria
- (4) Redia

10. Which of the following is respiratory organ of crustaceans ?

- (1) Book gills
- (2) Book lungs
- (3) Gills
- (4) Tracheae

11. Neopilina is a
- (1) Connecting link between arthropods and annelids
 - (2) Connecting link between annelids and molluscans
 - (3) Connecting link between plants and animals
 - (4) Connecting link between arthropods and molluscans
12. Third chamber in the stomach of a ruminant mammal is :
- (1) Abomasum
 - (2) Rumen
 - (3) Omasum
 - (4) Reticulum
13. In man, the deciduous set of teeth includes :
- (1) 8 incisors, 4 canines, 8 molars
 - (2) 8 incisors, 4 canines, 8 premolars
 - (3) 8 incisors, 4 canines, 4 premolars molars, 4 molars
 - (4) 8 incisors, 2 canines, 10 molars
14. In which of the following animals notochord does not persist throughout life ?
- (1) *Branchiostoma*
 - (2) *Myxine*
 - (3) *Dolioletum*
 - (4) *Ichthyophis*
15. Hepatic portal system is present in all
- (1) Amniotes only
 - (2) Amniotes and Anamniotes
 - (3) Anamniotes only
 - (4) Fishes only

16. Centrum, pre and post zygapophysis, transverse Process are parts of :

- (1) Skull of frog
- (2) Vertebrae of frog
- (3) Sternum of frog
- (4) Pectoral girdle of frog

17. Which one of the following animals lacks ear pinnae, lays eggs, possesses functional mammary glands and toothless horny beak ? :

- (1) *Pteropus*
- (2) *Salpa*
- (3) *Delphinus*
- (4) *Ornithorhynchus*

18. The cranial nerves, Branchialis innervate gills in fishes and are the branch of :

- (1) Glossopharyngeal
- (2) Vagus
- (3) Trigeminal
- (4) Abducens

19. Scales arranged in overlapping manner having posterior margin with teeth are :

- (1) Placoid
- (2) Ganoid
- (3) Cycloid
- (4) Ctenoid

20. Which one of the following mammal is cursorial in habit ?
- (1) Horse (2) Bat.
(3) Whale (4) Mole
21. The ear ossicle 'Stapes' in man is homologous to :
- (1) Articular (2) Hyomandibular
(3) Quadrate (4) None
22. In a mammal like rat, dorsal aorta give out a pair of arteries supplying blood to diaphragm. Which of the followings is that artery ?
- (1) Anterior mesentery (2) Phrenic
(3) Posterior mesentery (4) Iliac
23. If a cell contains 23 pairs of chromosomes just after completion of mitotic telophase, how many chromatids were present in metaphase ?
- (1) 23 (2) 46
(3) 92 (4) 184
24. The membrane phospholipids form bilayer, when water is available on both sides, due to :
- (1) Its amphipathic nature
(2) Presence of unsaturated fatty acids
(3) Presence of saturated and unsaturated fatty acids in its tail
(4) Presence of cholesterol along with phospholipids

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25. In hybridization experiments, high stringency washing means, washing in presence of :

- (1) Low salt concentration and high temperature
- (2) High salt concentration and high temperature
- (3) High salt concentration and low temperature
- (4) Only water

26. The most important cell type associated with immunity of the body is :

- (1) Platelets
- (2) Lymphocytes
- (3) RBCs
- (4) Neutrophils

27. Polysomes are many :

- (1) Ribosomes attached to an individual mRNA
- (2) Chain of nucleosomes forming chromatin
- (3) Several lysosomes fusing during phagocytosis
- (4) Centrosomes clustering during mitotic division

28. Which one of the following organelles is rich in acid hydrolases ?

- (1) Lysosomes
- (2) Golgi complex
- (3) Peroxisomes
- (4) Rough endoplasmic reticulum

29. Which of the following chromosome will have highest DNA content ?

- (1) Satellite chromosomes
- (2) X-chromosome
- (3) Lampbrush chromosomes
- (4) Polytene chromosomes

30. If an object is viewed under a compound microscope in the following conditions : Wavelength of light used = 500 nm; Refractive index of medium = 1; Angular aperture $\sin 70^\circ = 0.94$, the limit of resolution will be :

- (1) Approximately 230 nm
- (2) Approximately 330 nm
- (3) Approximately 430 nm
- (4) Approximately 30 nm

31. The fuels for Krebs cycle occurring in mitochondria are :

- (1) amino acids and nucleosides
- (2) nucleic acids and mono peptides
- (3) pyruvate and fatty acids
- (4) pyrimidine and phospholipids

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32. What will happen if a lysosome is ruptured inside a cell ?

- (1) All the organelles of the cell will get digested
- (2) The lysosomal enzymes will get inactivated due to non acidic pH of cytoplasm
- (3) The lysosomal proteins will get transported back to other lysosomes
- (4) The individual will get inclusion cell disease

33. Due to mutation one amino acid may get replaced by another amino acid. Such mutations are termed as

- (1) Nonsense mutation
- (2) Missense mutation
- (3) Frame shift mutation
- (4) In frame mutation

34. A human baby born with a short, fleshy tail protruding from the base of the spine is an example of :

- (1) Elongated vertebral column
- (2) Atavism
- (3) Edward's syndrome
- (4) Placental infection

35. The first ancestral mammals belong to :

- | | |
|-----------------------|---------------|
| (1) Morganucodontidae | (2) Theropods |
| (3) Balaeonopteridae | (4) Tarsiidae |

36. For an advantageous trait having very low or no heritability, what is the probability that it will be selected in the evolutionary process ?

- | | |
|----------|------------------|
| (1) High | (2) Intermediate |
| (3) Low | (4) Almost none |

37. Genetic drift play an important role in :

- (1) Large population
- (2) Small population
- (3) Bottleneck population
- (4) Both 2 and 3

38. Diversification of a small group of ancestral species into a large number of descendant species that occupy a wide range of ecological niches is known as :

- | | |
|-------------------|---------------------|
| (1) Genetic drift | (2) Migration |
| (3) Gradualism | (4) Niche selection |

39. The increase in body size with decrease in average temperature in case of warm blooded animals is stated by :

- (1) Bergmann's rule
- (2) Wallace's rule
- (3) Spencer's rule
- (4) Allen's rule

40. The first fossilized evidence of cells are microfossils of :

- (1) Prokaryotic cells in stromatolites
- (2) Prokaryotic cells in Allochthonous
- (3) Acritarchs
- (4) Ediacaran fossils

41. According to Darwinism, which of the following can evolve and hence, forms the unit of evolution :

- (1) Chromosome
- (2) Gene
- (3) Population
- (4) Individual

42. Which of the following individuals have the greatest fitness ?

- (1) An individual who is homozygous for sickle-cell anemia living in a malaria - free area of the world
- (2) An individual who is heterozygous for a sickle-cell trait living in a malaria-infested area
- (3) An individual who is homozygous for sickle-cell anemia living in a malaria-infested area
- (4) An individual not carrying a mutation for sickle-cell anemia living in a malaria-infested area .

46. Which one of the following characteristics of an axon is most dependent on its diameter ?

- (1) The magnitude of its resting potential
- (2) The duration of its refractory period
- (3) The conduction velocity of its action potential
- (4) The activity of its sodium-potassium pump

47. The amount of force produced by a skeletal muscle can be increased by :

- (1) Increasing extracellular Mg^{2+}
- (2) Decreasing extracellular Ca^{2+}
- (3) Increasing the concentration of acetylcholinesterase
- (4) Decreasing the interval between contractions

48. Connexin is an important component of :

- (1) Gap junction
- (2) Sarcoplasmic reticulum
- (3) Microtubule
- (4) Synaptic vesicle

49. Propagation of the action potential through the heart is fastest in the

- (1) SA node
- (2) Atrial muscle
- (3) Purkinje fibres
- (4) AV node

50. During exercise, there is an increase in a person's :

- (1) Diastolic pressure
- (2) Stroke volume
- (3) Venous compliance
- (4) Pulmonary arterial resistance

51. Pulse pressure increases when :

- (1) Heart rate increases
- (2) Stroke volume decreases
- (3) Mean arterial pressure increases
- (4) Aortic compliance increases

52. Voltage gated K^+ channel is inhibited by :

- (1) Tetrodotoxin
- (2) Triethanolamine
- (3) Saxitoxin
- (4) Both 1 and 3

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53. During scotopic vision, rod cells are activated by :

- (1) Opening cGMP coupled Na⁺ channel
- (2) Closure of Na⁺-K⁺ ATPase
- (3) Closure of 5'-GMP coupled Na⁺ channel
- (4) Increase in the glutamate release

54. Removal of the N-terminal Val (Asp)₄ Lys activates :

- (1) Trypsinogen
- (2) Chymotrypsinogen
- (3) Pepsinogen
- (4) Procarboxypeptidase

55. H⁺-K⁺ ATPase in parietal cells can be inhibited by :

- | | |
|-----------------|----------------|
| (1) Ranitidine | (2) Cimetidine |
| (3) Opemprazole | (4) Ouabain |

56. Stimulation of which one of the following groups of neurons in the respiratory centre stimulates both inspiratory and expiratory muscles ?

- | | |
|------------------|---------------------|
| (1) DRG | (2) VRG |
| (3) both 1 and 2 | (4) Broca's neurons |

57. Nebulin is associated with the structure of :
- (1) Z line (2) Tick filament
(3) Myosin head (4) Thin filaments
58. Base titration of which of the following -amino acids will yield 3 pK values :
- (1) Ser (2) Asp
(3) Val (4) Met
59. Disulphide bond in a protein is generated between :
- (1) Met - Met (2) Met - Cys
(3) Cys - Cys (4) Met - Thr
60. In a protein, Helix-loop-helix denotes :
- (1) Tertiary structure
(2) Quaternary structure
(3) Structural motif
(4) Supercoiled unit
61. The kinetic pattern of an enzyme in the presence of increasing concentration of an inhibitor shows ~~no change~~ in K_m but declined V_{max} value, Identify nature of the inhibitor used :
- (1) Uncompetitive (2) Non-competitive
(3) Competitive (4) Mixed type

62. Formation of lariat configuration is associated with :

- (1) Initiation of translation
- (2) Poly A tailing of mRNA
- (3) Splicing of mRNA
- (4) Termination of transcription

63. Degeneracy of genetic codes indicates for

- (1) Degradation of codons
- (2) Inconsistency of codons
- (3) More than one codons for a single amino acid
- (4) One codon for more than one amino acids

64. Aminoacyl-tRNA-synthetase is utilized for

- (1) Splicing of a tRNA
- (2) Charging of a tRNA
- (3) Synthesis of a tRNA
- (4) Degradation of a tRNA

65. A cDNA is constructed from :

- (1) A double stranded DNA
- (2) A single stranded DNA
- (3) A rRNA
- (4) A mRNA

66. Which of the following hormone is used to induce labour in human females ?

- | | |
|-----------------|------------------|
| (1) Vasopressin | (2) Prolactin |
| (3) Oxytocin | (4) Somatotropin |

67. If over production of growth hormone is initiated early in life, it leads to :

- | | |
|----------------|--------------|
| (1) Acromegaly | (2) Dwarfism |
| (3) Gigantism | (4) Myxedema |

68. Superior hypophysial artery forms secondary plexus in :

- (1) pars distalis
- (2) Pars tuberalis
- (3) Pars intermedia
- (4) Pars nervosa

69. Which hormone of the pars distalis shows increased secretion during stress ?

- | | |
|----------|---------|
| (1) ACTH | (2) STH |
| (3) FSH | (4) LH |

70. Androgen binding protein (ABP) is secreted by :

- | | |
|------------------|-------------------|
| (1) Leydig cells | (2) Myoid cells |
| (3) Germ cells | (4) Sertoli cells |

71. Ovulation takes place during which stage of the estrous cycle ?

- | | |
|---------------|---------------|
| (1) Metestrus | (2) Proestrus |
| (3) Estrus | (4) Diestrus |

72. Addison's disease is associated with patho- physiology of :

- | | |
|-------------------|---------------------|
| (1) Thyroid gland | (2) Pituitary gland |
| (3) Pineal gland | (4) Adrenal gland |

73. Inhibin exerts negative feedback action on :

- | | |
|---------|---------|
| (1) STH | (2) FSH |
| (3) TSH | (4) LH |

74. Precursor amino acid for thyroid hormone synthesis is :

- | | |
|--------------|----------------|
| (1) Alanine | (2) Threonine |
| (3) Tyrosine | (4) Tryptophan |

75. Calcitonin is derived from which of the following gland ?
- | | |
|-----------------|---------------|
| (1) Parathyroid | (2) Pituitary |
| (3) Thyroid | (4) Pineal |
76. Which cell is not found in islets of Langerhans ?
- | | |
|------------|------------|
| (1) A cell | (2) B cell |
| (3) C cell | (4) D cell |
77. Hypophysectomy refers to removal of :
- | | |
|---------------------|-------------------|
| (1) Hypothalamus | (2) Pineal gland |
| (3) Pituitary gland | (4) Thyroid gland |
78. The second set of genes to be activated for anterior - posterior axis specification of *Drosophila* during early embryonic development is :
- | |
|-----------------------------|
| (1) Gap genes |
| (2) Pair rule genes |
| (3) Segment polarity gene |
| (4) Homeotic selector genes |
79. During gastrulation the movement of ectodermal cells to cover the entire embryo is known as :
- | | |
|------------------|------------------|
| (1) Delamination | (2) Invagination |
| (3) Ingression | (4) Epiboly |

80. Fast block to polyspermy is accomplished by :

- (1) Changes in membrane potential
- (2) Cortical rotation
- (3) Cortical reaction
- (4) Acrosomal reaction

81. Acrosomal vesicle in mature sperm is derived from :

- (1) Endoplasmic reticulum
- (2) Golgi complex
- (3) Lysosome
- (4) Mitochondria

82. Mammalian oocyte is :

- (1) Alecithal
- (2) Isolecithal
- (3) Centrolecithal
- (4) Telolecithal

83. A transparent model system which revolutionized studies on developmental biology after *Drosophila* is :

- (1) *Dictyostelium discoidium*
- (2) *Sea urchin*
- (3) *Caenorhabditis elegans*
- (4) *Xenopus*

84. Mammalian genome has :

- (1) Two HOX complexes, ANT-C and BX-C
- (2) Four HOX complexes, HOXA, HOXB, HOXC and HOXD
- (3) One complex namely HOM-C
- (4) Variable number of complexes in different species

85. In mammals the primary sex is **not** determined by :

- (1) X-autosome ratio
- (2) SRY gene
- (3) Presence of Y-Chromosome
- (4) SOX9

86. Teratogens are :

- (1) Endogenous metabolites that cause birth defects
- (2) Exogenous agents that cause birth defects
- (3) Exogenous agents causing cancer
- (4) Used to cure birth defects

87. The term 'epimorphosis' is used for :

- (1) Regenerations where dedifferentiation of adult structures followed by redifferentiation occurs
- (2) Regenerations where only re-patterning of the existing tissue occurs
- (3) The differentiation of epithelial tissue
- (4) Mid blastula transition

88. Bones and cartilages of our body develops from :

- (1) embryonic ectoderm
- (2) embryonic mesoderm
- (3) embryonic endoderm
- (4) ecto-endodermal transition

89. The thickened ectodermal tissue in limb bud which stimulates and guides the mesenchymal cells to form limb is known as :

- (1) Primary organizer (2) Limb mesenchyme
(3) Zone of polarizing activity (4) Apical ectodermal ridge

90. Which one of the following shows a one-way passage in an ecosystem ?

- (1) Free energy (2) Carbon
(3) Nitrogen (4) Potassium

91. The area of heaviest use within the home range is known as :

- (1) Busy area (2) Heavy area
(3) Core area (4) Shell area

92. Acid rain is due to increase in atmospheric concentration of :

- (1) Ozone and dust (2) CO₂ and CO
(3) SO₂ and CO (4) SO₂ and NO₂

93. Which one of the following is the correct sequence in a food chain ?

- (1) Grass → chameleon → insect → bird
(2) Grass → fox → rabbit → bird
(3) Phytoplankton → zooplankton → fish
(4) Fallen leaves → bacteria → insect larvae

94. The second trophic level in a lake ecosystem is :
- (1) Phytoplankton (2) Zooplankton
(3) Benthos (4) Periphyton
95. The Taj Mahal is threatened due to the effect of :
- (1) Oxygen (2) Hydrogen
(3) Chlorine (4) Sulphur dioxide
96. Minamata disease in Japan was caused through the pollution of water by :
- (1) Mercury (2) Methyl isocyanate
(3) Lead (4) Cyanide
97. An inventory of all behavioural patterns of a species is known as an :
- (1) Ethogram (2) Actogram
(3) Actigraphy (4) Ethography
98. An innate behaviour pattern that is stereotyped, spontaneous and independent of immediate control is called :
- (1) Fixed action pattern
(2) Stereotype pattern
(3) Social pattern
(4) Individual pattern

99. A biological rhythm of about 24 hours' duration is known as :

- | | |
|-----------------------|-----------------------|
| (1) Circalunar rhythm | (2) Circatidal rhythm |
| (3) Circadian rhythm | (4) Circannual rhythm |

100. The relatively persistent waning of a response that results from repeated presentations that are not followed by any form of reinforcement is known as :

- | | |
|-----------------|-------------------|
| (1) Fatigue | (2) Sensory block |
| (3) Habituation | (4) Learning |

101. A pheromone which produce an immediate motor response, such as the initiation of a mounting sequence is known as :

- | | |
|------------------------|-------------------------|
| (1) Priming pheromone | (2) General pheromone |
| (3) Specific pheromone | (4) Signaling pheromone |

102. A scientific name contains information about its :

- (1) Family and Species
- (2) Genus and Species
- (3) Phylum and Order
- (4) Class and Family

103. A dichotomous key is used to :

- (1) Locate an organism
- (2) Identify an organism
- (3) Divide a kingdom
- (4) Interbreed species

104. Which of the following name is written according to trinomial pattern of nomenclature ?

- (1) *Drosophila bipectinata*, Duda
- (2) *Musca nebula*
- (3) *Drosophila melanogaster*
- (4) *Corvus splendens splendens*

105. The term 'tautonym' stands for :

- (1) Same generic and species name
- (2) Different genus and species name
- (3) Same species and subspecies name
- (4) A species without any race

106. Which of the following species concept considers morphological features of animals to distinguish a species ?

- | | |
|------------------|----------------|
| (1) Typological | (2) Ecological |
| (3) Evolutionary | (4) Biological |

107. A taxonomic level concerned with the characterization and naming of species is known as :

- (1) Alpha taxonomy
- (2) Beta taxonomy
- (3) Gamma taxonomy
- (4) Omega taxonomy

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108. A gradual geographic change of a character in a series of contiguous populations is known as :

- (1) Continuous variation
- (2) Phylogenetic variation
- (3) Clinal variation
- (4) Discontinuous variation

109. Which species concept advocates that " Only individuals exist while species are abstractions created by people :

- (1) Typological species concept
- (2) Nominalistic species concept
- (3) Biological species concept
- (4) Evolutionary species concept

110. Biological species concept gives emphasis mainly on :

- (1) Geographical isolation
- (2) Morphological features
- (3) Phylogenetic relationships
- (4) Reproductive relationships

111. Which of the following is a correct match of the animal with its taxonomic group ?

- (1) Chelicerata-Tape worm; Cestoda-Horse shoe crab; Echinoidea-Sea urchins; Cephalopoda- Octopus
- (2) Chelicerata - Horse shoe crab; Cestoda - Tape worm; Echinoidea - Sea urchins; Cephalopoda - Octopus
- (3) Chelicerata - Horse shoe crab; Cestoda - Octopus; Echinoidea - Sea urchins; Cephalopoda - Tape worm
- (4) Chelicerata - Tape worm; Cestoda - Octopus; Echinoidea - Sea urchins; Cephalopoda - Horse shoe crab

112. In Linear hierarchy Family comes between :

- (1) Order and Tribe
- (2) Class and Order
- (3) Phylum and Class
- (4) Genus and Species

113. The silk glands of *Bombyx mori* are modified :

- | | |
|---------------------|------------------------|
| (1) Scent glands | (2) Herold's gland |
| (3) Salivary glands | (4) Prothoracic glands |

114. The Pebrine disease of silk worm is caused by :

- | | |
|----------------------------|------------------------------|
| (1) <i>Nosema bombycis</i> | (2) <i>Exorista bombycis</i> |
| (3) <i>Labia arachidis</i> | (4) <i>Nosema cecropiae</i> |

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115. Which of the following is an agricultural pest ?

- (1) *Apis Indica*
- (2) *Locusta migratoria*
- (3) *Laccifer lacca*
- (4) *Coccinella septempunctata*

116. Pollen basket is present on :

- (1) Fore leg
- (2) Middle leg
- (3) Hind leg
- (4) Abdomen

117. Which of the following lacks sting in honey been colony ?

- (1) Queen
- (2) Workers
- (3) Drone
- (4) None

118. Indian Institute of Natural Resins and Gums :

- (1) Ranchi
- (2) Bhuvneshwar
- (3) Raipur
- (4) Mirzapur

119. Aleuritic acid is

- (1) Amino acid
- (2) Fatty acid
- (3) A fatty acid obtained from shellac by saponification
- (4) None

120. In India, which is **not** the most common host trees for lac insect ?

- (1) Dhak (*Butea monosperma*)
- (2) Ber (*Ziziphus Mauritiana*)
- (3) Kusum (*Schleichera oleosa*)
- (4) Mullberry

17P/216/22 (1)

ROUGH WORK

रफ़ कार्य

31

P.T.O.

अभ्यर्थियों के लिए निर्देश

(इस पुस्तिका के प्रथम आवरण पृष्ठ पर तथा उत्तर-पत्र के दोनों पृष्ठों पर केवल नीली-काली बाल-प्वाइंट पेन से ही लिखें)

1. प्रश्न पुस्तिका मिलने के 30 मिनट के अन्दर ही देख लें कि प्रश्नपत्र में सभी पृष्ठ मौजूद हैं और कोई प्रश्न छूटा नहीं है। पुस्तिका दोषयुक्त पाये जाने पर इसकी सूचना तत्काल कक्ष-निरीक्षक को देकर सम्पूर्ण प्रश्नपत्र की दूसरी पुस्तिका प्राप्त कर लें।
2. परीक्षा भवन में लिफाफा रहित प्रवेश-पत्र के अतिरिक्त, लिखा या सादा कोई भी खुला कागज साथ में न लायें।
3. उत्तर-पत्र अलग से दिया गया है। इसे न तो मोड़ें और न ही विकृत करें। दूसरा उत्तर-पत्र नहीं दिया जायेगा। केवल उत्तर-पत्र का ही मूल्यांकन किया जायेगा।
4. अपना अनुक्रमांक तथा उत्तर-पत्र का क्रमांक प्रथम आवरण-पृष्ठ पर पेन से निर्धारित स्थान पर लिखें।
5. उत्तर-पत्र के प्रथम पृष्ठ पर पेन से अपना अनुक्रमांक निर्धारित स्थान पर लिखें तथा नीचे दिये वृत्तों को गाढ़ा कर दें। जहाँ-जहाँ आवश्यक हो वहाँ प्रश्न-पुस्तिका का क्रमांक तथा सेट का नम्बर उचित स्थानों पर लिखें।
6. ओ० एम० आर० पत्र पर अनुक्रमांक संख्या, प्रश्नपुस्तिका संख्या व सेट संख्या (यदि कोई हो) तथा प्रश्नपुस्तिका पर अनुक्रमांक और ओ० एम० आर० पत्र संख्या की प्रविष्टियों में उपरिलेखन की अनुमति नहीं है।
7. उपर्युक्त प्रविष्टियों में कोई भी परिवर्तन कक्ष निरीक्षक द्वारा प्रमाणित होना चाहिये अन्यथा यह एक अनुचित साधन का प्रयोग माना जायेगा।
8. प्रश्न-पुस्तिका में प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं। प्रत्येक प्रश्न के वैकल्पिक उत्तर के लिए आपको उत्तर-पत्र की सम्बन्धित पंक्ति के सामने दिये गये वृत्त को उत्तर-पत्र के प्रथम पृष्ठ पर दिये गये निर्देशों के अनुसार पेन से गाढ़ा करना है।
9. प्रत्येक प्रश्न के उत्तर के लिए केवल एक ही वृत्त को गाढ़ा करें। एक से अधिक वृत्तों को गाढ़ा करने पर अथवा एक वृत्त को अपूर्ण भरने पर वह उत्तर गलत माना जायेगा।
10. ध्यान दें कि एक बार स्याही द्वारा अंकित उत्तर बदला नहीं जा सकता है। यदि आप किसी प्रश्न का उत्तर नहीं देना चाहते हैं, तो संबंधित पंक्ति के सामने दिये गये सभी वृत्तों को खाली छोड़ दें। ऐसे प्रश्नों पर शून्य अंक दिये जायेंगे।
11. रफ कार्य के लिए प्रश्न-पुस्तिका के मुखपृष्ठ के अंदर वाला पृष्ठ तथा उत्तर-पुस्तिका के अंतिम पृष्ठ का प्रयोग करें।
12. परीक्षा के उपरान्त केवल ओ एम आर उत्तर-पत्र परीक्षा भवन में जमा कर दें।
13. परीक्षा समाप्त होने से पहले परीक्षा भवन से बाहर जाने की अनुमति नहीं होगी।
14. यदि कोई अभ्यर्थी परीक्षा में अनुचित साधनों का प्रयोग करता है, तो वह विश्वविद्यालय द्वारा निर्धारित दंड का/की, भागी होगा/होगी।

SEAL