Question Booklet Series: **A** *Question Booklet Serial No.* 141101

CET (UG) – 2018

Important: *Please consult your Admit Card/Roll No. slip before filling your Roll Number on the Test Booklet and Answer Sheet.*

Roll No. ***(In Figure)*** ***(In Words)***

O.M.R. Answer Sheet Serial No.

Signature of Candidate: _____ *Signature of Invigilator:* _____

Subject: Biology

Time: 70 Minutes **Number of Questions: 60** **Maximum Marks: 120**

DO NOT OPEN THE SEAL ON THE BOOKLET UNTIL ASKED TO DO SO.

INSTRUCTIONS:

1. Write your Roll No. on the Questions Booklet and also on the OMR Answer Sheet in the space provided and nowhere else.
2. Enter the Question Booklet Serial No. on the OMR Answer Sheet. Darken the corresponding bubbles with **Black Ball Point/Black Gel Pen.**
3. Do not make any identification mark on the Answer Sheet or Question Booklet.
4. Please check that this Question Booklet contains **60** Questions. In case of any discrepancy, inform the Assistant Superintendent within 10 minutes of the start of Test.
5. Each question has four alternative answer (A,B,C,D) of which only one is correct. For each question, darken only one bubble (A or B or C or D), whichever you think is the correct answer, on the Answer Sheet with **Black Ball Point/Black Gel Pen.**
6. If you do not want to answer a question, leave all the bubbles corresponding to that question blank in the Answer Booklet. No marks will be deducted in such cases.
7. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
8. **Negative marking will be adopted for evaluation i.e. 1/4th of the marks of the question will be deducted for each wrong answer. A wrong answer means incorrect answer or wrong filling of bubble.**
9. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
10. For rough work only the blank sheet at the end of the Question Booklet be used.
11. The Answer Sheet is designed for computer evaluation. Therefore, if you do not follow the instructions given on the Answer Sheet, it may make evaluation by the computer difficult. **Any resultant loss to the candidate on the above account, i.e. not following the instructions completely, shall be of the candidate only.**
12. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
13. In no case the Answer Sheet, the Question Booklet, or its part or any material copied/noted from this Booklet is to be taken out of the examination hall. Any candidate found doing so would be expelled from the examination.
14. A candidate who creates disturbance of any kind or changes his/her seat or is found in possession of any paper possibly of any assistant or found giving or receiving assistant or found using any other unfair means during the examination will be expelled from the examination by the Centre Superintendent/Observer whose decision shall be final.
15. **Tele-communication equipment such as Cellular phones, pager, wireless, scanner, camera or any electronic/digital gadget etc., is not permitted inside the examination hall. Use of calculators is not allowed.**
16. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

1. **Carageenans and alginates are obtained respectively from**

A) Brown algae, Red algae
B) Red algae, Green algae
C) Green algae, Brown algae
D) Red algae, Brown algae

2. **Heterospory is not found in**

A) *Lycopodium* B) *Marsilea* C) *Azolla* D) *Selaginella*

3. **If 2n=8, what will be the number of chromatids in each daughter cell after meiosis I?**

A) 2 B) 4 C) 8 D) 16

4. **Which mineral ion plays important role in functioning of photosystem II?**

A) Manganese B) Magnesium C) Iron D) Molybdenum

5. **Primary acceptor of carbondioxide in photosynthesis is**

A) Ribose
B) Ribulose-5-phosphate
C) Ribulose 1, 5-bisphosphate
D) 3-Phosphoglycerate

6. **Inulin is a polymer of**

A) Fructose B) Glucosamine C) Galactose D) Galactosamine

7. **If a mutation in DNA leads to change in codon UUU to UUC in a mRNA, the mutation would be a**

A) Mis-sense mutation
B) Silent mutation
C) Non-sense mutation
D) Frame-shift mutation

8. **A farmer adds *Azotobacter* culture to the soil before sowing maize; it results in increase in the yield. The possible reason for this increase is that *Azotobacter***

A) Increases the nutrients in soil by decomposing dead organic matter
B) Increases the fertility of the soil by fixing atmospheric nitrogen
C) Enters into the roots of maize and fixes atmospheric nitrogen for the plant
D) Produces certain chemicals in the soil, which kills the weeds present in the field

9. **Which one is the correct match of Column - I and Column - II?**

Column – I	**Column – II**
a) Polysomes	i) Bacteria
b) Tubulin	ii) Glycoprotein
c) Nucleoid	iii) Walther Flemming
d) Golgi bodies	iv) Protein synthesis
e) Chromatin	v) Centriole

A) a-iii, b-v, c-ii, d-i, e-iii
B) a-v, b-i, c-iv, d-iii, e-ii
C) a-ii, b-iv, c-i, d-v, e-iv
D) a-iv, b-v, c-i, d-ii, e-iii

10. Which one of the following is correct for sucrose disaccharide?

A) Glucose α 1-4 fructose
B) Glucose α 1-2 fructose
C) Fructose α 1-4 glucose
D) Fructose α 1-2 glucose

11. In citric acid cycle, fumarate is converted to malate by fumarase and this reaction requires the addition of

A) Carbondioxide B) Water C) FAD D) Coenzyme A

12. Which statement is incorrect?

A) The gene which controls more than one phenotypic character is pleiotropie gene
B) Inheritance of blood groups in humans is polygenic
C) Law of segregation has no exception
D) Test cross is a cross of F1 hybrid with recessive parent

13. If a carrier for haemophilia female is married to a haemophilia male, the percentage of haemophilic sons born to this couple would be

A) Zero B) 25 C) 50 D) 100

14. Which of the following is a wrong statement?

A) Fimbrae are the bristle like structures of bacteria and these play role no role in motility
B) Pili are elongated tubular structures of bacterial surface helping in secretion
C) Mesosomes are extensions of plasmamembrane into the bacterial cell and help in respiration
D) Flagella are filamentous extensions from bacterial surgace and help in motility

15. The nitrogen base attached to phosphoric acid in phospholipid lecithin is

A) Ethanolamine B) Sphingosine C) Choline D) Cephalin

16. The sweetened nutrient medium formed prior to alcoholic fermentation is called

A) Mash B) Wash C) Malt D) Wort

17. In flowering plants, double fertilization occurs during which one male gamete fuse with egg and the second fuses with

A) Primary endosperm cell
B) Synergid cell
C) Secondary nucleus
D) Antipodal cell

18. In monocot embryo structure, rudiment of second cotyledon is represented by

A) Epiblast B) Epicotyl C) Hypocotyl D) Coleoptile

19. Tension in water column in the xylem is responsible for water transport upward in the stem, it means

A) Positive pressure potential
B) Negative pressure potential
C) Positive solute pressure
D) Water potential is Zero

20. Which plant growth regulator prevent fruit drop at early stages but promote it at maturity?

A) Auxins B) Gibberellins C) Cytokinins D) Abscisic acid

21. When margins of petals in a flower overlap one another but not in a particular direction, the aestivation is known as

A) Twisted B) Valvate C) Vaxillary D) Imbricate

22. Phloem in Gymnosperms lack

A) Companion cells
B) Phloem parenchyma
C) Phloem fibres
D) Sieve cells

23. Barks refers to secondary phloem and

A) Phellogen B) Phellem C) Phelloderm D) Periderm

24. Which combination of root system and leaf venation is present in monocot plants?

A) Tap root and parallel venation
B) Tap root and reticulate venation
C) Fibrous root and parallel venation
D) Fibrous roots and reticulate venation

25. In which of the following, male and female gametophytes remain within sporangia present on the sporophyte?

A) Bryophytes
B) Pteridophytes and Gymnosperms
C) Gymnosperms
D) Bryophytes and Pteridophytes

26. A museum has collection of

A) Living plants for reference
B) Dried plant specimens preserved on sheets
C) Plants in jars containing distilled water
D) Plant and animal specimens in jars containing liquid preservative

27. Which of the following is incorrect regarding lichens?

A) Show mutulism between algae and fungi
B) Very good indicators of pollution
C) Known as imperfect fungi
D) Have no place in five kingdom classification

28. Which one is the compelling feature to keep prokaryotic algae with plants?

A) Absence of nucleus
B) Presence of chlorophyll
C) Presence of cell wall
D) Absence of contractile vacuoles

29. Improved wheat variety having genes for dwarfness and high protein content is

A) Sharbati Sonora B) Kalayan C) Sonalika D) Lerma Rojo

30. Premature leaf fall is caused due to the deficiency of

A) Potassium B) Calcium C) Phosphorus D) Nitrogen

31. Water cannot leave which of the following part of the loop of the Henle:

A) Proximal convoluted tubule B) Distal convoluted tubule
C) Ascending limb D) Descending limb

32. The amount of blood left in the ventricle after ventricular contraction is:

A) 60 ml B) 70 ml C) 130 ml D) 100ml

33. The partial pressure of carbon dioxide in the alveolus is approximately:

A) 159 mm of Hg B) 0.3 mm of Hg C) 40 mm of Hg D) 100 mm of Hg

34. Which of the following is not a peptide hormone:

A) Corticotropin Releasing Hormone B) Thyrotrophin Releasing Hormone
C) Dopamine D) Luteinizing Hormone Releasing Hormone

35. Salivary glands in frog are:

A) Numerous B) Single C) Two D) Absent

36. Phallic glands in cockroach:

A) Secrete ootheca B) Secrete outer covering of spermatophore
C) Store excretory products D) Secrete ecdysone

37. Which of the following is a Pseudocoelomate?

A) Aschelminthes B) Platyhelminthes C) Annelids D) Echinoderms

38. Which of the following is an example of soft coral is:

A) Aurelia B) Adamsia C) Gorgonia D) Alcyonium

39. Which one is the largest part of the digestive system both in *Herdmania and Branchiostoma:*

A) Oesophagus B) Pharynx C) Intestine D) Stomach

40. Which one of the following is commonly called as "feather back":

A) Anabas anabas B) Channa punctatua
C) Notopterus notopterus D) Exocoetus

41. Silencing of mRNA has been used to produce plants resistant to

A) Bollworms B) Nematodes C) Beetles D) White flies

42. The first clinical trial of gene therapy at NIH was given to a 4-year-old girl for curing the deficiency of which of the following enzymes:

A) Beta-galactosidase
B) Thrombokinase
C) Adenosine deaminase
D) Phenylalanine hydroxylase

43. The order of different stages of PCR is as under:

A) Denaturation, Annealing, Extension
B) Annealing, Denaturation, Extension
C) Extension, Denaturation, Annealing
D) Denaturation and Annealing

44. During agarose gel electrophoresis, which of the following molecules will be the fastest to run towards the positive electrode?

A) Plasmid DNA
B) RNA
C) Chromosomal/genomic DNA
D) All will move at the same speed

45. For blue-white screening of the clones containing recombinant DNA, the chromogenic substrate added to the agar plate is:

A) β-galactosidase
B) IPTG
C) X-Gal
D) lacZ

46. Inhibin is an ovarian hormone which

A) Inhibits the secretion of LH
B) Inhibits the secretion of prolactin
C) Inhibits the secretion of progesterone
D) Inhibits the secretion of FSH

47. Eunuchs are tall because:

A) Increased estrogen delays epiphyseal closure in long bones.
B) Reduced estrogen and androgen delays epiphyseal closure in long bones.
C) Lack of testes stimulates closure of epiphyses.
D) Decreased progesterone delays epiphyseal closure in long bones.

48. The next ovulatory cycle after implantation is postponed because of

A) Production of hCG by trophobast cells
B) Low levels of prolactin
C) Low levels of progesterone
D) Production of prostaglandins by corpus luteum

49. Which of the following is not true about antibody structure?

A) Antibodies have multiple identical antigen binding sites.
B) Antibodies are built from equal numbers of large (heavy) and small (light) peptide chains.
C) Antibodies are secreted and function away from the cell. They are not attached to the cell membrane.
D) The class of the antibody molecule is determined solely by its heavy chain.

50. The alcohol intoxicated individual has less cognitive capacity available to process all on-going information, and so alcohol acts to narrow attention and means that the drinker processes fewer cues less well. This is known as:

A) Alcohol myopia B) Alcohol dependency C) Alcohol abuse D) Alcohol amnesi

51. The concept of Teleology was introduced by

A) Aristotle B) Thales C) Francis Bacon D) Epicurus

52. Dollo's law states that

A) Living organisms exhibit evolutionary irreversibility
B) Ontogeny recapitulates phylogeny
C) Evolution of animals was a series of attempts by nature to produce more perfect forms
D) Life has ever been in existence in the form as it exists today

53. *Basilosaurus* is a missing link between

A) Amphibians and reptiles
B) Fish and amphibia
C) Reptiles and birds
D) Aquatic mammals and their terrestrial ancestors

54. The concept of the biological species was given by

A) Mayr B) Wiley C) Valen D) Linnaeus

55. The Devonian period is named after Devon, a place in

A) France B) Russia C) India D) England

56. k-selected populations exhibit

A) Rapid population growth B) Delayed reproductive maturity
C) Produce more offspring's D) Little or no parental care

57. The magnificent Hangul or Kashmir stag is the main mammal in

A) Dachigam National park B) Corbett National park
C) Panna National Park D) Rajaji National Park

58. Species richness is

A) Number of species occurring in an area
B) The abundance of species occurring in an area
C) The number and abundance of species occurring in an area
D) Similar to Shannon's index

59. The hypervolume concept of niche was proposed by

A) Hutchinson B) Turresson C) Mace D) Tansley

60. The IUCN headquarters are in

A) France B) Germany C) England D) Switzerland

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