Question Booklet Series: **A** *Question Booklet Serial No.:* **141200**

CET (UG) – 2019

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. The medium of examination shall be **English** only.
5. 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.
6. 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.**
7. 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.
8. Darken the bubbles in the OMR Answer Sheet according to the Serial No. of the question given in the Question Booklet.
9. **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.**
10. For calculations, use of simple log tables is permitted. Borrowing of log tables and any other material is not allowed.
11. For rough work only the blank sheet at the end of the Question Booklet be used.
12. 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.**
13. After the test, hand over the Question Booklet and the Answer Sheet to the Assistant Superintendent on duty.
14. 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.
15. **20 minutes** extra should be given to the visually handicapped/Person with Disability (PwD) for each paper.
16. 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.
17. **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.**
18. The candidates will not be allowed to leave the Examination Hall/Room before the expiry of the allotted time.

(BIO-A)

1. Club shaped end of mycelium is a characteristic feature of which of the following?
   A) Basidiomycetes B) Ascomycetes C) Phycomycetes D) Both A and B

2. Which of the following is not a positive interaction?
   A) Commensalism B) Amensalism C) Protocoperation D) Mutualism

3. Rate of production of organic matter during photosynthesis is termed as
   A) Net productivity B) Gross primary productivity
   C) Net community productivity D) Secondary productivity

4. Which one of the following was the objective of singing the 'Montreal protocol'?
   A) Protection of wild life B) Protection of ozone layer
   C) Control over the use of insecticides D) Control of global warming

5. An upright pyramid indicates that
   A) Herbivores are more in number than producers
   B) Herbivores are less in number than producers
   C) Producers are less in number than herbivores
   D) Herbivores are less in number than carnivores

6. During Metaphase-I
   A) The microtubules from the opposite poles of the spindle attach to the pair of homologous chromosomes
   B) The microtubules from the opposite poles of the spindle attach to the pair of non-homologous chromosomes
   C) Tetravalent chromosomes align on the equatorial plate
   D) The homologous chromosomes separate, while sister chromatids remain associated at their centromeres

7. Stored food in pheophyceae is
   A) Floridean starch B) Cellulose C) Glycogen D) Laminarin

8. Gause's 'Competitive Exclusion Principle' states
   A) Two closely related species competing for the same resources cannot co-exist indefinitely
   B) Two closely related species competing for the same resources can co-exist indefinitely
   C) The competitively inferior one will survive
   D) Two distantly related species competing for the same resources cannot co-exist indefinitely

9. The group that includes important decomposers and mineralizers of the earth is
   A) Protista B) Fungi C) Plantae D) Monera

10. In case of dicot roots, the cork cambium is derived from
   A) Hypodermis B) Epidermis C) Pericycle D) Cortex

11. In five kingdom system, the main basis of classification is
   A) Mode of nutrition B) Asexual reproduction
   C) Structure of cell wall D) Structure of nucleus

12. One of the most important functions of botanical gardens is that
A) One can observe tropical plants there
B) They provide the natural habitat for wild life
C) They provide a beautiful area for recreation
D) They allow ex-situ conservation of germ plasm

13. Zig-zag development of inflorescence axis is an example of
A) Helicoid cyme B) Scorpioid C) Umbel D) Compound umbel

14. A vascular bundle having phloem on both sides of xylem is
A) Conjoint collateral B) Radial C) Concentric D) Conjoint bicollateral

15. Part of the plant used for culturing during tissue culture is known as
A) Stock B) Explant C) Scion D) Callus

16. Nobel prize winner for the discovery of method of interpersonal communication in honey bee is
A) Von Frisch B) H.G. Khorana C) Harvey D) Darwin

17. Taq polymerase is used in PCR because of its
A) Low thermal stability B) High fidelity
C) Easy availability D) High thermal stability

18. Cyanobacteria serves as important biofertilizers in the fields of
A) Sugarcane B) Maize C) Rice D) Wheat

19. Physical removal of large and small waste from the sewage through filtration and sedimentation is called as
A) Primary treatment B) Secondary Treatment
C) Tertiary treatment D) Quaternary Treatment

20. The first transgenically produced plant is
A) Rice B) Wheat C) Cotton D) Tobacco

21. F_0-F_1 particles are present in
A) Ribosomes B) Mitochondria C) Golgi complex D) Chloroplast

22. Which of the following enzymes is used to cut DNA molecule in rDNA technology?
A) Phosphatase B) Restriction enzymes
C) Ribonuclease D) Polymerase

23. The first clinical gene therapy was done for the treatment of
A) AIDS B) Cystic fibrosis C) Cancer D) SCID

24. Molybdenum is the essential constituent of
A) Nitrogenase B) Respiratory chain
C) Growth regulators D) Chlorophyll

25. A hypothetical compound called flowering hormone is
A) Phytochrome B) Florigen C) Auxin D) Cytokinin

26. The deficiency of which micro-nutrient results in little leaf disease?
A) Copper B) Zinc C) Boron D) Iron

27. Peroxisomes in plants are the sites of
A) Peroxidases
B) Fat synthesis
C) Protein degradation
D) Photorespiration

28. Opening and closing of flowers represent a kind of
A) Nutation
B) Tropic movement
C) Nastic movement
D) Autonomic movement

29. Gibberellins do not
A) Substitute cold treatment
B) Promote flowering in long day plants
C) Inhibit flowering in long day plants
D) Promote bolting in rosette plants

30. In electron transport system, the final acceptor of electrons in mitochondria is
A) Oxygen B) Ubiquinone C) Cytochrome o D) Cytochrome b

31. The soft corals are characterized by
A) Massive skeletal structure
B) Minute spiny skeletal elements known as Sclerites
C) Non feathery tentacles
D) Reef building capacity

32. *Clypeaster* is commonly called as
A) Cake urchin B) Brittle star C) Feather star D) Sea pentagon

33. Proctodaeum in cockroaches is composed of
A) Ileum and rectum
B) Ileum and colon
C) Ileum, colon and rectum
D) Colon and rectum

34. Agranulocytes are
A) Eosinophils and neutrophils
B) Basophil and lymphocytes
C) Eosinophil and monocytes
D) Monocytes and lymphocytes

35. Which of the following will enhance Glomerular Filtration Rate (GFR):
A) Increase in hydrostatic pressure in glomerular capillary
B) Increase in hydrostatic pressure in space of Bowman's capsule
C) Colloid osmotic pressure in glomerular capillary
D) Decrease in glomerular ultrafiltration coefficient

36. Dyne in arms during beating of cilia:
A) Move towards plus end of microtubules
B) Move toward minus end of microtubules
C) Move toward minus end of myosin
D) Move toward plus end of myosin

37. Myasthenia gravis is caused by:
A) Destruction of acetylcholine receptors at neuromuscular junction
B) Mutation in genes that code for desmin protein
C) Deficiency of dystrophin protein in muscles
D) Deficiency of calcium ions in muscle fiber

38. Perineurium is the connective tissue layer surrounding:
A) Axon B) Dendrtite C) Fascicle of nerve fibers D) Whole nerve

39. Which of the following proteins is expected to evolve at slowest rate than others:
A) Cytochrome C B) Hemoglobin C) Fibrinopeptides D) Peptide

40. What will be the effect of inbreeding in a population:
A) Increase in percentage of homozygous individuals
B) Increase in percentage of heterozygous individuals
C) Percentage of homozygous individuals will not increase more than 50%
D) Percentage of homozygous individuals will not increase more than 75%

41. For a biallelic locus, the degrees of freedom for a chi-square test of Hardy-Weinberg equilibrium will be:
A) 0 B) 1 C) 2 D) 3

42. Which of the following cells are part of blood brain barrier:
A) Ependymal Cells B) Astrocytes C) Satellite cells D) Microglia

43. Which of the following amino acid is a purely ketogenic in nature:
A) Histidine B) Glutamine C) Lysine D) Serine

44. The post office is involved in processing, packaging and distribution. Because of these functions it could be used as an analogy for which cellular organelle?
A) Plasma membrane B) Endoplasmic reticulum
C) Golgi apparatus D) Mitochondria

45. Most common type of phospholipid in the cell membrane of nerve cells is
A) Phosphatidylcholine B) Phosphatidylinositol
C) Phosphatidylserine D) Sphingomyelin

46. Facilitated diffusion involves
A) Carriers but no energy B) Receptors and energy
C) Enzymes and energy D) Carriers and energy

47. Brunners glands are found in
A) Duodenum B) Stomach C) Oesophagus D) Colon

48. Enterokinase takes part in the conversion of
A) Pepsinogen to pepsin B) Prorennin to rennin
C) Trypsinogen to trypsin D) Proteins to polypeptides

49. Codon AUG specifies
A) Methionine B) Valine C) Tyrosine D) Stop codon

50. A modified dihybrid ratio of 9:3:4 indicates
A) Supplementary genes B) Complementary genes
C) Lethal genes D) Epistatic genes

51. tRNA attaches amino acid at its
A) 5' end B) 3' end C) Anticodon region D) Loop region

52. Protein biosynthesis requires all the following except
A) Ribosomal RNA B) Primer protein C) Messenger RNA D) Peptidyl transferase

53. Linkage was discovered by
A) Punnet B) Muller C) Morgan D) Mendel

54. ADH is secreted by the
A) Hypothalamus B) Posterior lobe of pituitary
C) Intermediate lobe of pituitary D) Anterior lobe of pituitary

55. Which test is used to evaluate the blood glucose levels of the previous 3 months?
A) Methemoglobin B) C-reactive protein
C) Haemoglobin A1c D) Prolactin

56. Which of the following condition is likely to cause diabetes insipidus:
A) Lack of insulin production B) Increase in oxytocin production
C) Lack of ADH production D) Lack of glucagon production

57. All the following cellular events involve actin filaments except
A) Amoeboid movement B) Cytokinesis in animal cell
C) Flagellar movement in bacteria D) Contraction of smooth muscle

58. Muscles immune to fatigue are
A) Unstriped B) Striped C) Cardiac D) Eye muscles

59. How many structural genes are present in the tryptophan operon of E. coli
A) Three B) Five C) Seven D) One

60. Edman degradation is used for the
A) Determination of amino acid sequence from the N-terminal of a protein
B) Determination of nucleotide sequence of the DNA
C) Determination of amino acid sequence from the C-terminal of a protein
D) Determination of nucleotide sequence of the RNA

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