150308 A

Question Booklet Series:

A

CET – 2015
PAPER – B [Biology]
QUESTION BOOKLET

INSTRUCTIONS

Question Booklet Number:

211206

Maximum Time Allowed : 60 minutes
Negative Marking : 0.25

No. of Questions: 60
Maximum Marks: 60

Roll Number: | | | | | | | | |

Answer Sheet Number: | | | | | | |

Please read the following Instructions carefully:

1) **Check the Booklet thoroughly**: In case of any defect – Misprint, Missing question(s), Missing page, Blank page, Damaged or Defaced page, or duplication of question(s) / Page(s), get the Booklet changed with the Booklet of the same series from the Room Invigilator. No complaint shall be entertained after the Entrance Test is over.

2) Write your Roll Number and the OMR Answer Sheet Number on the Question Booklet.

3) Check your Roll Number, Question Booklet Number and Question Booklet Series carefully before entering them on the OMR Sheet. Ensure twice that you have made their entries on the OMR Answer Sheet correctly and darken the relevant bubbles on the Answer Sheet and sign at the appropriate place. Your OMR Answer Sheet will be evaluated on the basis of the information given by you in its ovals.

4) If you have made any wrong entry of Roll Number, Booklet Number or Booklet Series Number in the OMR Answer Sheet, you should report it to the Invigilator / Superintendent or report it within three days after the conclusion of the Entrance Test to the BOPEE office, Jammu / Srinagar positively, failing which no complaint / representation will be entertained and the OMR Answer Sheet will be evaluated strictly according to the entries made by you.

5) Strictly follow the instructions given by the Centre Supervisor / Room Invigilator and those given on the Question Booklet.

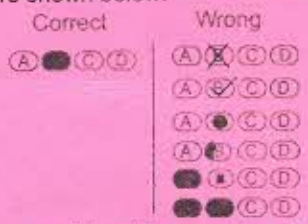
6) Candidates are not allowed to carry any papers, notes, books, calculators, cellular phones, scanning devices, pagers etc. to the Examination Hall. Any candidate found using, or in possession of, such unauthorized material or indulging in copying or impersonation or adopting unfair means / reporting late / without Admit Card will be debarred from the Entrance Test.

7) Please mark the right responses on the OMR Sheet with ONLY a Blue/Black ball point pen. Use of eraser, whitener (fluid) and cutting on the OMR Answer Sheet is NOT allowed.

8) The test is of objective type containing multiple choice questions (MCQs). Each objective question is followed by four responses. You are required to choose the correct/best response and mark your response on the OMR Answer Sheet and NOT on the Question Booklet.

9) There will be 0.25 negative marking for every wrong answer.

10) For marking response to a question, completely darken the CIRCLE so that the alphabet inside the CIRCLE is not visible. Ensure that you darken only one circle in the Answer Sheet. Even a stray mark / faint mark on the Answer Sheet is read by the scanner and will make your answer invalid by reading it as a case of double shading. You have to be very very careful while darkening the bubbles. The CORRECT and the WRONG methods of darkening the CIRCLE on the OMR Answer Sheet are shown below.



11) Please be careful while marking the response to questions. The response once marked cannot be changed and if done shall be treated as a wrong answer.

12) In view of the limited time, do NOT waste your time on a question which you find difficult. Attempt easier questions first and come back to the difficult questions later during the test.

13) DO NOT fold or wrinkle the OMR Answer Sheet.

14) Rough work MUST NOT be done on the OMR Answer Sheet. Use rough page of your Question Booklet for this purpose.

15) Candidates are provided carbonless OMR Answer Sheet having original copy and candidate's copy. After completing the examination, candidates are directed to fold at perforation on the top of the Sheet, tear it to separate original copy and candidate's copy and then hand over the original copy of OMR Answer Sheet to the Room Invigilator and retain candidate's copy.

DO NOT OPEN THE SEAL OF THIS BOOKLET UNTIL TOLD TO DO SO

1. During meiosis I, the number of chromosomes is
   (A) halved
   (B) tripled
   (C) doubled
   (D) quadrupled
2. Phenotype of an organism is the result of
   (A) environmental changes and sexual dimorphism
   (B) cytoplasmic effects and nutrition
   (C) mutations and linkages
   (D) genotype and environment interactions
3. A character which is expressed in a hybrid is called
   (A) dominant
   (B) recessive
   (C) co-dominant
   (D) epistatic
4. There are _____ pairs of cranial nerves arising from the brain of human beings.
   (A) 8
   (B) 12
   (C) 18
   (D) 25
5. The tissue which covers the external surface of the animal body and the internal surface of visceral organs is
   (A) epithelial tissues
   (B) connective tissue
   (C) adipose tissue
   (D) none of the above
6. DNA replication takes place during
   (A) S- phase
   (B) G_2- phase
   (C) G_1 –phase
   (D) Prophase
7. Arrange the following in ascending order of Linnaean hierarchy.
   (A) Kingdom – Phylum – Class – Order – Family – Genus – Species
   (B) Kingdom – Family – Genus – Species – Class – Phylum – Order
   (C) Kingdom – Order – Species – Genus – Class – Family – Phylum
   (D) Species – Genus – Family – Order – Class – Phylum – Kingdom
8. The polluting strength of sewage is usually characterized by its
   (A) BOD
   (B) nitrogen content
   (C) ozone content
   (D) eutrophication
9. Mating of an organism to a double recessive in order to determine whether it is homozygous or heterozygous for a character under consideration is called
   (A) reciprocal cross
   (B) test cross
   (C) dihybrid cross
   (D) back cross
10. Amount of air in the lungs that remains after deep breathing is called
    (A) dead space
    (B) residual volume
    (C) vital capacity
    (D) ventilation rate
11. The blood does not clot inside the body because of
    (A) oxygenation of blood
    (B) movement of blood
    (C) presence of heparin in blood
    (D) absence of fibrinogen in blood

12. The first body segment of earthworm is
(A) peristome
(B) peristomium
(C) protostomium
(D) protostome

13. In Mendel's experiments with garden pea, round seed shape (RR) was dominant over wrinkled seeds (rr), yellow cotyledon (YY) was dominant over green cotyledon (yy). What are the expected phenotypes in the F_2 generation of the cross RRYY × rryy?
(A) Only wrinkled seeds with green cotyledons
(B) Only wrinkled seeds with yellow cotyledons
(C) Only round seeds with green cotyledons
(D) Round seeds with yellow cotyledons, round seeds with green cotyledons, wrinkled seeds with yellow cotyledons and wrinkled seeds with green cotyledons

14. In five kingdom classification, single celled eukaryotes are included in
(A) fungi
(B) protista
(C) monera
(D) archaea

15. Which one of the following statements is NOT true with respect to viability of mammalian sperm?
(A) Viability of sperm is determined by its motility
(B) Sperms must be concentrated in a thick suspension
(C) Sperm is viable for only up to 24 hours
(D) Survival of the sperm depends on the pH of the medium and it is most active in alkaline pH

16. Coelom is lined on all sides by
(A) ectoderm
(B) mesoderm
(C) endoderm
(D) ectoderm and endoderm

17. What is the function of germ pore?
(A) Initiation of pollen tube
(B) Absorption of water for seed germination
(C) Emergence of radical
(D) Release of male gametes

18. Which one of the following membranes secretes a watery fluid that lubricates and cushions the joint?
(A) Tendons
(B) Ligaments
(C) Cartilage
(D) Synovial membrane

19. The catalytic efficiency of two different enzymes can be compared by the
(A) molecular size of the enzymes
(B) pH optimum values
(C) Km values
(D) formation of the product

20. Which of the following enzymes is used to join DNA fragments?
(A) DNA polymerase
(B) Ligase
(C) Primase
(D) Endonuclease

21. Closed vascular bundles lack
(A) cambium
(B) pith
(C) ground tissue
(D) conjunctive tissue

22. Concentration of the urine is controlled by
(A) MSH
(B) ADH
(C) oxytocin
(D) ACTH

23. Which one of the following causes the mammary glands to enlarge at puberty?
(A) Testosterone
(B) Progesterone
(C) Estrogen
(D) Oxytocin

24. What is the inner lining of the uterus called?
(A) Cervix
(B) Oviduct
(C) Endometrium
(D) Fimbriae

25. Common character of all vertebrates without exception is
(A) body divided into head, trunk and tail
(B) two pairs of limbs
(C) exoskeleton
(D) presence of skull

26. In C_3 plants, the first stable compound formed after CO_2 fixation is
(A) oxaloacetic acid
(B) malic acid
(C) phosphoglyceraldehyde
(D) 3-phosphoglycerate

27. Evolution of different species in a given area starting from a point and spreading to other geographical areas is known as
(A) migration
(B) divergent evolution
(C) adaptive radiation
(D) natural selection

28. The letter 'T' in T-lymphocyte refers to
(A) thymus
(B) thyroid
(C) tonsil
(D) thalamus

29. The leydig cells found in the human body are the secretory source of
(A) glucagon
(B) androgens
(C) progesterone
(D) intestinal mucus

30. Which one of the following is NOT a micronutrient for plants?
(A) Magnesium
(B) Molybdenum
(C) Boron
(D) Zinc

31. Which of the following is a bacterium involved in denitrification?
(A) Azotobacter
(B) Nitrosomonas
(C) Pseudomonas
(D) Nitrobacter

32. Restriction endonucleases
(A) are synthesized by bacteria as part of their defense mechanism
(B) are used for in vitro DNA synthesis
(C) are used in genetic engineering for ligation of two DNA molecules
(D) are present in mammalian cells for degradation of DNA when the cell dies

33. Emulsification of fat occurs by
(A) bile salts
(B) bile pigments
(C) pancreatic juice
(D) succusentericus

34. Which one of the following is not a correct explanation of cross pollination?
(A) The pollen grains of male flowers are transferred to the stigma of the female flowers
(B) The pollen grains are transferred from one flower to another flower, of another plant of the same species
(C) The pollen grains are transferred from one flower to another flower situated on the same plant
(D) The pollen grains of one flower are transferred to the stigma of the same flower

35. Most plants obtain their nitrogen from the soil in the form of
(A) nitric acid
(B) free nitrogen gas
(C) nitrates
(D) nitrite

36. In a lake, phytoplankton grow in abundance in
(A) littoral zone
(B) limnetic zone
(C) profundal zone
(D) benthic region

37. The function of leghaemoglobin in the root nodules of legumes is
(A) oxygen removal
(B) inhibition of nitrogenase activity
(C) expression of nif gene
(D) nodule differentiation

38. World AIDS day is on
(A) May 1
(B) December 1
(C) December 20
(D) June 1

39. AIDS is caused by
(A) blood cancer
(B) TMV
(C) bacterium
(D) human immunodeficiency virus

40. Which one of the following statements is/are correct?
(A) FSH and LH occur in both males and females
(B) FSH and LH stimulate the follicle to secrete estrogen
(C) The ovarian cycle depends on the blood levels of FSH and LH
(D) All of these are correct

41. The biological control of agricultural pests, unlike chemical control is
(A) very expensive
(B) polluting
(C) self perpetuating
(D) toxic

42. The part of fallopian tube closest to the ovary is
(A) infundibulum
(B) isthmus
(C) ampulla
(D) cervix

43. Energy flow in ecosystem is
(A) bidirectional
(B) multidirectional
(C) unidirectional
(D) all around

44. Bacteria cannot survive in a highly salted pickle because
(A) salt inhibits reproduction of bacteria
(B) enough light is available for photosynthesis
(C) they become plasmolysed and death occurs
(D) nutrients in the pickle medium cannot support life

45. The idea of 'Natural Selection' as the fundamental process of evolutionary changes was reached
(A) independently by Charles Darwin and Alfred Russel Wallace in 1900
(B) by Charles Darwin in 1866
(C) by Alfred Russel Wallace in 1901
(D) independently by Charles Darwin and Alfred Russel Wallace in 1859

46. Plant species having a wide range of genetical distribution evolve into a local population known as
(A) ecotype
(B) biome
(C) ecosystem
(D) population

47. A transgenic food crop which may help in solving the problem of night blindness in developing countries is
(A) Golden rice
(B) FlavrSavr tomatoes
(C) Starlink maize
(D) Bt soybean

48. Examples of secondary air pollutants is/are
(A) Smog
(B) O_3
(C) PAN
(D) All of the above

49. Which one of the following is the most abundant protein in the animal world?
(A) Collagen
(B) Insulin
(C) Trypsin
(D) Haemoglobin

50. Conditions of a karyotype 2n+/-1 and 2n+/-2 are called
(A) aneuploidy
(B) polyploidy
(C) autopolyploidy
(D) monosomy

51. The monocotyledonous seed consists of one large and shield shaped cotyledon known as a/an
(A) coleoptile
(B) scutellum
(C) aleurone layer
(D) coleorhiza

52. As secondary growth proceeds, in a dicot stem, the thickness of
(A) sapwood increases
(B) heartwood increases
(C) both sapwood and heartwood increases
(D) both sapwood and heartwood remains the same

53. Which type of white blood cells are concerned with the release of histamine and the natural anti coagulant heparin?
(A) Monocytes
(B) Neutrophils
(C) Basophils
(D) Eosinophils

54. The basic functional unit of human kidney is
(A) henle's loop
(B) nephron
(C) nephridia
(D) pyramid

55. Yeast is used in the production of
(A) bread and beer
(B) cheese and butter
(C) citric acid and lactic acid
(D) lipase and pectinase

56. Double fertilization involves
(A) fertilization of the egg by two male gametes
(B) fertilization of two eggs in the same embryo sac by two sperms brought by one pollen tube
(C) fertilization of the egg and the central cell by two sperms brought by different pollen tubes
(D) fertilization of the egg and the central cell by two sperms brought by the same pollen tube

57. Which of the following pairs in angiosperms are diploid and triploid, respectively?
(A) Polar nucleus and secondary nucleus
(B) Microspore mother cell and egg cell
(C) Secondary nucleus and endosperm
(D) Endosperm and antipodal cells

58. Genes for cytoplasmic male sterility in plants are generally located in
(A) nuclear-genome
(B) mitochondrial genome
(C) chloroplast genome
(D) cytosol

59. The enzyme responsible for primary carboxylation in C_3 plants is
(A) pyruvate carboxylase
(B) succinic dehydrogenase
(C) hexokinase
(D) RuBP carboxylase/ oxygenase

60. The word species was coined by
(A) Aristotle
(B) Linnaeus
(C) John Ray
(D) Engler

Space for Rough Work:

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