BIOLOGY
QUESTIONS : 40 FULL MARKS : 100
DURATION : 90 MINUTES

Directions: Ques No 1 to 20 carry 2 marks each. Select one correct answer for these questions

1. Heart beat increases
   (A) On stimulation of sympathetic nerves
   (B) On stimulation of vagus nerves (sympathetic nerve)
   (C) By adrenalin secreted by adrenal medulla
   (D) Both A and C

2. Na / k pump transports
   (A) $3Na^+$ out for $2k^+$ in
   (B) $3Na^+$ in for $2k^+$ out
   (C) $2Na^+$ out for $3k^+$ in
   (D) $2Na^+$ in for $3k^+$ out

3. How many mitotic division takes place for complete development of embryo sac ?
   (A) 4
   (B) 3
   (C) 2
   (D) 1

4. In lac-operon system β - galactosidase is coded by
   (A) α - gene
   (B) i – gene
   (C) γ - gene
   (D) z – gene

5. The transfer of pollen grains from another of a flower of different plant of the same species is called
   (A) Autogamy
   (B) Allogamy
   (C) Xenogamy
   (D) Geitonogamy

6. Protonephridia or Flame cells are present in
   (A) Planaria
   (B) Amphioxus
   (C) Both A and B
   (D) Neither A nor B

7. Okazaki fragments are joined by the enzyme
   (A) Topoisomerase I
   (B) Topoisomerase II
   (C) Helicase
   (D) DNA ligase

8. Which one of the followings is correct ?
   (A) IC=RV+IRV
   (B) IC=RV+ERV
   (C) IC=TV+IRV
   (D) IC=TV+ERV

9. The implantation of blastocyst takes place in the following layer of uterus
   (A) Perimetrium
   (B) Myometrium
   (C) Endometrium
   (D) Epimetrium

10. The larva of Ascaris lumbricoids is
    (A) Hexacanth larva
    (B) Onchosphere larva
    (C) Trechophore larva
    (D) Rhabditiform larva

11. "Floating Ribs" are
    (A) 9^{th} and 10^{th} ribs
    (B) 10^{th} and 11^{th} ribs
    (C) 11^{th} and 12^{th} ribs
    (D) 10^{th} and 12^{th} ribs

12. Which of the following is Pribnow box ?
    (A) 5′ - TATAAT - 3′
    (B) 5′ - TAATAT - 3′
    (C) 5′ - TAAATT - 3′
    (D) 5′ - TATATT - 3′

13. How many Barr bodies would be observed in the nucleus of a Klinefelter male ?
    (A) 0
    (B) 1
    (C) 2
    (D) 3

14. Humans appeared during the epoch
    (A) Pleistocene
    (B) Pliocene
    (C) Miocene
    (D) Oligocene

15. What activates Chymotrypsinogen into chymotrypsin ?
    (A) Trypsin
    (B) Pepsin
    (C) Fatty acid
    (D) Bik salts

16. In angiospermic plants PEN is
    (A) Monoploid
    (B) Diploid
    (C) Triploid
    (D) Tetraploid

17. Compact bones have
    (A) Haversian canal
    (B) Volkman's canal
    (C) Both A and B
    (D) Neither A nor B

18. 'Pseudocoelom' is present in the body of
    (A) Flatworm
    (B) Tapeworm
    (C) Earthworm
    (D) Roundworm

19. By which test presence of HIV in a person can be diagnosed ?
    (A) RAI test
    (B) ELISA test
    (C) Western blotting test
    (D) All of these

20. That can pass through placenta
    (A) IgA
    (B) IgD
    (C) IgG
    (D) IgM

Directions: Ques. No 21 to 40 carry 3 marks each. Select one correct answer for these Questions.

21. The Chipko Movement was started during the year
    (A) 1980
    (B) 1972
    (C) 1992
    (D) 2002

22. Which centre is stimulated during increase in body temperature ?
(A) Anterior hypothalamus (B) Posterior hypothalamus
(C) Limbic system (D) Red nucleus

23. Genetically modified (GM) crops can be produced by
(A) Recombinant DNA technology (B) Somatic hybridization
(C) Cross breeding (D) Micropropagation

24. Pyruvic acid, the last product of glycolysis is degraded to Co_2 and H_2O in
(A) Matrix of chloroplasts (B) Cytoplasm of cell
(C) Matrix of mitochondria (D) Inner membrane of chloroplasts

25. Retrovirus contains an enzyme to carry out biochemical activities in host.
Name the enzyme.
(A) Polymerase (B) Exonuclease
(C) Reverse transcriptase (D) Ligase

26. Glisson's capsule is present in
(A) Gall bladder (B) Liver
(C) Pancreas (D) Spleen

27. STDs which are caused by virus
(A) AIDS (B) Hepatitis B
(C) Both A and B (D) None of these

28. Paired male accessory glands
(A) Seminal vesicle (B) Bulbourethral gland
(C) Both A and B (D) None of these

29. Green house gas
(i) Co_2 (ii) CH_4
(iii) CFC (iv) N_2

(A) i and ii (B) i and iii
(C) i, ii, iii (D) ii, iii, iv

30. Nucleosomes have 'histone octamer' that is made up of histone profeins
(i) H1 histone (ii) H2A histone
(iii) H2B histone (iv) H3 histone

(A) i and ii (B) i and iii
(C) ii and iii (D) ii, iii, iv

31. Humoral immunity is mediated by
(A) Cytotonic T cell (B) Plasma cell
(C) Eosinophil (D) Nutrophil

32. Characteristics of cancer cells
(i) Apoptosis (ii) Metastasis
(iii) Angiogenesis (iv) Contact inhibition

(A) i and ii (B) i and iii
(C) i, ii, iii (D) ii, iii, iv

33. Hybridomas are used for
    (A) Killing cancer cells
    (B) Formation of monoclonal antibodies
    (C) Antibiotic synthesis
    (D) Antigen Synthesis

34. The amount of extra oxygen required by muscle tissue during recovery from vigorous exercise is called as
    (A) Rigor mortis
    (B) Oxygen debt
    (C) Anaerobic respiration
    (D) Fermentation

35. The process by which pollen tube enters the ovule in angiospermic plants
    (i) Dichogamy
    (ii) Porogamy
    (iii) Mesogamy
    (iv) Chalazogamy

    (A) (i) and (iii)
    (B) (ii) and (iv)
    (C) (ii), (iii) and (iv)
    (D) All of these

36. '4C'-containing organic acid of TCA cycle
    (i) Oxalic acid
    (ii) Oxaloacetic acid
    (iii) Oxalosuccinic acid
    (iv) Malic acid

    (A) (i) and (ii)
    (B) (i) and (iii)
    (C) (ii) and (iii)
    (D) (ii) and (iv)

37. Which are used an biofertilizer ?
    (i) Rhizobium
    (ii) Azotobacter
    (iii) Azolla
    (iv) Thiobacillus

    (A) (i), (ii) and (iii)
    (B) (ii), (iii) and (iv)
    (C) (i), (iii) and (iv)
    (D) None of these

38. Essential fatty acids
    (i) Arachidonic acid
    (ii) Linoleic acid
    (iii) Linolenic acid
    (iv) Butyric acid

    (A) (i), (iii) and (iv)
    (B) (i), (ii) and (iv)
    (C) (i), (ii) and (iii)
    (D) None of these

39. The 'respiratory centre' located in human brain
    (i) Cerebrum
    (ii) Cerebellum
    (iii) Pons varolii
    (iv) Medulla oblongata

    (A) (ii) and (iii)
    (B) (i) and (iv)
    (C) (i) and (ii)
    (D) (iii) and (iv)

40. Afferent cranial nerve
    (i) Olfactory nerve
    (ii) Optic nerve
    (iii) Auditory nerve
    (iv) Occulomotor nerve

    (A) (ii), (iii) and (iv)
    (B) (i), (ii) and (iii)
    (C) (i), (ii) and (iv)
    (D) None of these