

MHT-CET Practice Question Paper

Subject : Biology

Time: 25 minutes

Test no : 03

Marks : 100

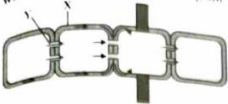
All the questions are compulsory and contain two marks for each

- Which one of the following plants reproduces vegetatively by epiphyllous buds?
a) sweet potato b) Potato
c) Onion d) Kalanchoe
- The exine of pollen grain is made up of
a) chitin b) cellulose
c) sporopollenin d) hemicellulose
- Egg in female gametophyte is accompanied by
a) Antipodal cells
b) Synergids
c) Definitive nucleus
d) Tube nucleus
- A typical embryo sac at maturity is
a) 7 nucleated, 8 celled
b) 8 nucleated, 7 celled
c) 8 nucleated, 8 celled
d) 7 nucleated, 7 celled
- Self-pollination which involves two different flowers of the same plant, is called
a) autogamy b) geitonogamy
c) xenogamy d) hybridization
- What is the outbreeding device, where the stamens and carpels mature at different times called?
a) Monoecy b) Self sterility
c) Dichogamy d) Heterostyly
- The nourishing cells in the Seminiferous tubules are
a) Follicular cells
b) Leydig cells
c) Sertoli cells
d) Spermatogonial cells
- In ovary estrogen is secreted by
a) Follicular cells
b) Corona radiata cells
c) Sertoli cells
d) Primary oncyte
- In the menstrual cycle, the level of progesterone reaches its maximum in the _____
a) secretory phase
b) proliferative phase
c) ovulatory phase
d) menstrual phase
- Sperm of animal species X cannot fertilize ovum of species by Y because _____.
a) Fertilizin of X and Y are not specific
b) Antifertilizin of X and Y are not specific
c) Fertilizin of X and antifertilizin of Y are not specific
d) Antifertilizin of X and fertilizin of Y are not specific
- Morula formed at the end of cleavage is
a) 14 b) 16
c) 18 d) 20
- The unique feature observed in the foetus during fifth month of pregnancy
a) body covered with fine hair
b) development of limbs
c) appearance of hair on head
d) formation of heart
- Alleles are
a) different phenotype
b) true breeding homozygotes
c) different molecular forms of a gene
d) heterozygotes
- How many types of gametes will be produced by an individual having genotype AaBbcc?
a) four b) three
c) two d) one
- In a phenomenon where heterozygotes have features of both the homozygotes,

that is, an allele is neither dominant nor recessive to the other, Such a phenomenon is termed as:

- Co-dominance
 - Pleiotropy
 - Test cross
 - Dominance
16. Linkage groups can be separated during _____ in meiosis.
- Crossing over
 - Synapsis
 - Tetrad formation
 - Teminalization
17. The result of the following reaction/ experiment carried out by Avery et al on *Streptococcus pneumoniae* has proved conclusively that DNA is the genetic material;
- Live 'R' strain + DNA from 'S' strain + RNase
 - Live 'R' strain + DNA from 'S' strain + DNase
 - Live 'R' strain + Denatured DNA of 'S' strain + protease
 - Heat killed 'R' strain + DNA from 'S' strain + DNase
18. What is the approximate size of nucleus in a typical mammalian cell?
- 2.2 meter
 - 1.2 meter
 - 10^{-4} meter
 - 10^6 meter
19. Polymerization of DNA nucleotides during the synthesis of lagging strand occurs in
- $3' \rightarrow 5'$ direction
 - $5' \rightarrow 3'$ direction
 - any direction
 - promoter to terminator direction
20. Central dogma in molecular biology is
- RNA \rightarrow DNA \rightarrow Protein
 - DNA \rightarrow RNA \rightarrow Protein
 - RNA \rightarrow Protein \rightarrow DNA
 - DNA \rightarrow Protein \rightarrow RNA
21. The primary gases that were used by Miller in his experiment are
- CH_4 , NH_3 , H_2O , H_2
 - CH_4 , CO_2 , N_2 , SO_2
 - CH_4 , CO_2 , N_3 , NH_3

d) CH_4 , N_2 , NH_3 , H_2

22. Which one of the following factors is not included in modern synthetic theory of evolution?
- Mutations and genetic recombination
 - Inheritance of acquired characters
 - Natural selection
 - Reproductive isolation
23. In a plant cell, the diffusion pressure define a zero when it is _____
- plasmolysed
 - turgid
 - flaccid
 - incipient
24. What indicates X, Y in the given diagram
- 
- X-Cell surface membrane, Y-Plasmodesmata
 - X-Plasmodesmata, Y-Tonoplast
 - X-Cell surface membrane, Y- Cytoplasm
 - X-Plasmodesmata, Y-Cell surface membrane
25. Auxin can be bioassayed by
- Lettuce hypocotyl elongation
 - Avena* coleoptile curvature
 - Hydroponics
 - Potometer
26. Which one of the following is a dicot weedicide?
- 2, 4-D
 - NAA
 - IBA
 - IAA
27. The structure which prevents the entry of food into respiratory tract is
- Pharynx
 - Larynx
 - Glottis
 - Epiglottis
28. Tidal Volume and Expiratory Reserve Volume of an athlete is 500 mL and 1000 mL respectively. What will be his Expiratory Capacity if the Residual volume is 1200 mL?
- 2200 mL
 - 2700 mL
 - 1500 mL
 - 1700 mL
29. Name the chronic respiratory disorder caused mainly by cigarette smoking.
- Respiratory acidosis
 - Respiratory alkalosis

- c) Emphysema
d) Asthma
30. Serum differs from blood in
a) lacking antibodies
b) lacking globulins
c) lacking albumins
d) lacking clotting factors
31. Myelin sheath is produced by
a) Schwann Cells and Oligodendrocytes
b) Astrocytes and Schwann Cell
c) Oligodendrocytes and Osteoclasts
d) Osteoclasts and Astrocytes
32. Receptor sites for neurotransmitters are present on
a) membranes of synaptic vesicles
b) pre-synaptic membrane
c) tips of axons
d) post-synaptic membrane
33. The depolarization of nerve membrane takes place through influx of ____ ions
a) Calcium b) potassium
c) Sodium d) Magnesium
34. Which area of cerebral cortex is responsible for the interpretation of speech?
a) Broca's area
b) Wernicke's area
c) Premotor area
d) Association area of sensory cortex
35. The cell-mediated immunity inside the human body is carried out by
a) T-lymphocytes b) B-lymphocytes
c) Thrombocytes d) Erythrocytes
36. Which one of the following statement is CORRECT?
a) Lysergic acid diethylamide is a depressant.
b) Heroin is diacetylmorphine
c) Hashish has hallucinogenic property
d) Cocaine is opioid drug.
37. Pusa Shubhra is a variety of
a) cauliflower b) chilli
c) wheat d) cabbage
38. The technique of producing large number of genetically similar plants within short time by tissue culture is called
a) Organogenesis
b) Somatic hybridization
c) Micropropagation
d) Protoplast culture
39. Homozygous pure lines in cattle can be obtained by
a) mating of related individuals of same breed
b) mating of unrelated individuals of same breed
c) mating of individuals of different breed
d) mating of individuals of different species
40. Mushrooms are rich source of _____.
a) Proteins, vitamins , minerals amino acids
b) High fats
c) High cholesterol
d) High Carbohydrates
41. The usage of technique gel electrophoresis is
a) Separation of DNA into individual bands
b) Separation of double helix DNA into single strand
c) Production of many copies of DNA
d) Cutting of DNA into small fragments
42. During gene cloning, the enzyme used to join the insert DNA with the plasmid vector is
a) DNA ligase
b) Restriction endonuclease
c) Alkaline phosphatase
d) Exonuclease
43. Protein α -1- antitrypsin is used to treat
a) Alzheimer's disease
b) Cancer
c) Emphysema
d) Rheumatoid arthritis
44. Use of bioresources by multinational companies and organisations without authorisation from the concerned country and its people is called
a) Biodegradation b) Biopiracy
c) Bio-infringement d) Bioexploitation
45. Which body of the Government of India regulates GM research and safety of

introducing GM organisms for public services

- a) Bio-safety committee
- b) India Council of Agricultural Research
- c) Genetic Engineering Approval Committee
- d) Research Committee on Genetic Manipulation

46. The study of inter-relationship between living organisms and their environment is called

- a) ecosystem
- b) demography
- c) ecology
- d) natality

47. Which of the following are characteristics of population?

- a) Immigration
- b) Natality
- c) Mortality
- d) All of these

48. Vertical distribution of different species occupying different levels in a biotic community is known as

- a) Divergence
- b) Stratification
- c) Zonation
- d) Pyramid

49. The pyramid that cannot be inverted in a stable ecosystem, is pyramid of

- a) number
- b) energy
- c) biomass
- d) all the above

50. The organization which publishes the Red List of species is

- a) ICFRE
- b) IUCN
- c) UNEP
- d) WWF