

MOCK CET PAPER (BIOLOGY) 1

- Which of the following statements is true ?**
 - Both DNA and RNA have a single polynucleotide chain
 - Thymine occurs in both DNA and RNA
 - DNA and RNA occur both inside and outside the nucleus
 - Uracil is present in DNA
- 'Die Naturalischen Pflanzfamilien' was written by**
 - Linnaeus
 - Hutchinson
 - Engler and Prantl
 - De Candolle
- Rise in sea level is due to**
 - Acid rain
 - Green house effect
 - Ozone layer depletion
 - Nuclear winter
- Kranz anatomy is found in**
 - Stem of C₄ plants
 - Stems of C₃ plants
 - Leaves of C₄ plants
 - Leaves of C₃ plants
- How many energy rich bonds are found in ATP ?**
 - One
 - Two
 - Three
 - Four
- Differentiation of root is controlled by**
 - High auxin to cytokinin ratio
 - High cytokinin to auxin ratio
 - High ABA to cytokinin ratio
 - High auxin to ABA ratio
- Which of the following statement is correct ?**
 - Blood antigens are found on the cell membrane of RBCs and antibodies in the plasma
 - Blood antibodies are found on the cell membrane of RBCs and antigens in the plasma
 - Both blood antibodies and antigens are found on the cell membrane of RBCs
 - Both blood antibodies and antigens are found in the plasma
- Match the following:**

Column I	Column II
A. Ascospore	p. Diatom
B. Endospore	q. Agaricus
C. Auxospore	r. Bacteria
D. Basidiospore.	s. Yeast
	t. Nephrolepis

 - A=s; B=p; C=r; D=q
 - A=s; B=r; C=p; D=q
 - A=s; B=t; C=p; D=q
 - A=s; B=p; C=t; D=q
- The extra structure that provides nutrition to the embryo is**
 - Umbilicus
 - Placenta
 - Amnion
 - Chorion
- Fruits and vegetables are kept in a refrigerator to maintain their flavour and taste by**
 - Decreasing the rate of respiration
 - Increasing the rate of respiration
 - Inactivating enzymes involved in photosynthesis
 - Preventing degradation of chlorophyll

11. Pick the correct answer with respect to statements 'A' and 'B'.

Statement A: In plants, roots and fruits function as sinks.

Statement B: In plants, leaves function as source.

- 1) Statement 'A' is correct
- 2) Statement 'B' is correct
- 3) Both statements are correct
- 4) Both the statements are incorrect

12. VNTR stands for

- 1) Variable number of thymine repeats
- 2) Variable number of transcription repeat
- 3) Variable nucleotide tandem repeats
- 4) Variable number of tandem repeats

13. During the beating of the heart, in which region will the highest pressure develop ?

- 1) left atrium
- 2) left ventricle
- 3) pulmonary artery
- 4) right ventricle

14. Sertoli cells are found

- 1) between the seminiferous tubules
- 2) within the seminiferous tubules
- 3) inside the fallopian tube
- 4) in the ovary

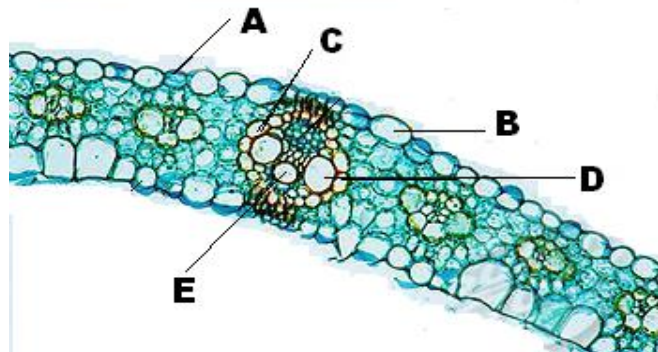
15. Meissner's and Auerbach's plexus are found in the

- 1) intestinal wall
- 2) heart wall
- 3) Glisson's capsule
- 4) Epithelial lining of the gut

16. This is also known as discontinuous variation

- 1) mutation
- 2) genetic drift
- 3) gene flow
- 4) isolation

17. Parts of the T.S. of monocot leaf have been indicated by alphabets. Choose the answer where alphabets correctly indicate the parts.



- 1) A=epidermis; B=motor cell; C=bundle sheath; D=metaxylem; E=protoxylem
- 2) A=epidermis; B=bundle sheath; C=metaxylem; D=protoxylem; E=motor cell
- 3) A=epidermis; B=motor cell; C=metaxylem; D=bundle sheath; E=protoxylem
- 4) A=epidermis; B=bundle sheath; C=motor cell; D=metaxylem; E=protoxylem

18. Super ovulation in a cow is achieved by the use of

- 1) LTH
- 2) FSH
- 3) LH
- 4) FSH and LH

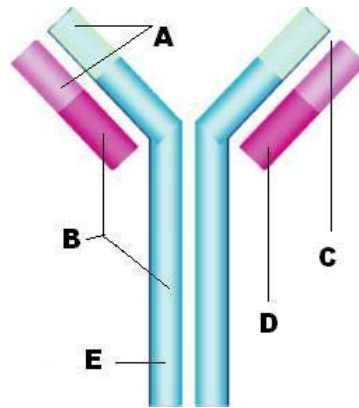
19. Capacitance of sperms takes place in

- 1) Seminiferous tubules
- 2) Epididymis
- 3) Vas deference
- 4) Uterus

20. Phosphodiester bonds occur in

- 1) a nucleoside
- 2) a nucleotide
- 3) both (1) and (2)
- 4) a polynucleotide

21. In the following diagram different parts have been indicated by alphabets. Choose the answer with the correct combination of parts and alphabets.

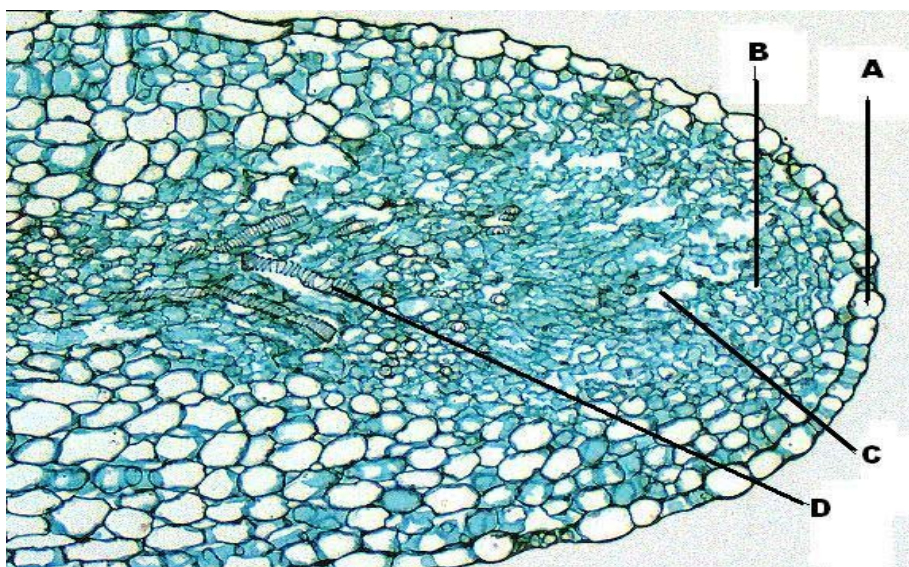


- 1) A=variable regions; B=constant regions C=antigen binding site; D=light chain; E=heavy chain
- 2) A=constant regions; B=variable regions; C=antigen binding site; D=heavy chain; E=light chain
- 3) A=variable regions; B=constant regions; C=antigen binding site; D=heavy chain; E=light chain
- 4) A=constant regions; B=variable regions; C=antigen binding site; D=light chain; E=heavy chain

22. Western Ghats have come under” Hot Spot” category, because of

- 1) high elevation
- 2) constant regions
- 3) evergreen forest
- 4) high endemism

23. In a vertical section of a hydathode given bellow, parts have been indicated by alphabets. Choose the answer where alphabets correctly indicate the parts.



- 1) A=epithem; B=intercellular space; C=nonfunctional guard cell; D=terminal tracheary elements
- 2) A=nonfunctional guard cell; B=epithem; C=terminal tracheary elements; D=intercellular space
- 3) A=nonfunctional guard cell; B=epithem; C=intercellular space; D=terminal tracheary elements
- 4) A=terminal tracheary elements; B=epithem; C=intercellular space; D=nonfunctional guard cell

24. Which of the following plant components is not fermented by gastrointestinal organisms ?

- | | |
|-------------------|--------------|
| 1) Lignin | 2) Cellulose |
| 3) Hemi cellulose | 4) Pectin |

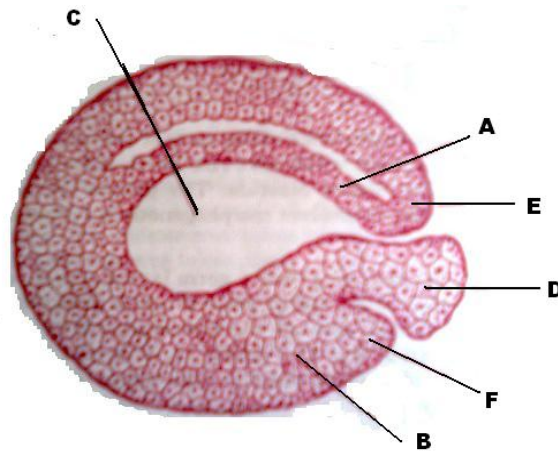
25. Grass stem (Bamboo) elongates after initial growth due to

- | | |
|-------------------------|-----------------------|
| 1) Lateral meristem | 2) Secondary meristem |
| 3) Intercalary meristem | 4) Apical meristem |

26. Spermatogenesis in human beings occurs at

- 1) Body temperature
- 2) Temperature lower than core body temperature
- 3) Temperature higher than core body temperature
- 4) Temperature does not play any role

27. In the diagram of vertical section of gastrula, various parts have been indicated by alphabets. Choose the answer with the correct combination of parts and alphabets;



- 1) A=Chorda mesoderm; B=endoderm; C=Yolk plug; D=archenteron; E=dorsal lip; F=ventral lip
- 2) A=Chorda mesoderm; B=Yolk plug; C=archenteron; D=endoderm; E=dorsal lip; F=ventral lip
- 3) A=Chorda mesoderm; B=endoderm; C=archenteron; D=Yolk plug; E=dorsal lip; F=ventral lip
- 4) A=Chorda mesoderm; B=endoderm; C=archenteron; D=Yolk plug; E=ventral lip; F=dorsal lip

28. Which of the following metabolic pathways does not generate ATP ?

- | | |
|-------------------------|--------------------|
| 1) Glycolysis | 2) TCA cycle |
| 3) Fatty acid oxidation | 4) Ornithine cycle |

29. Match the following biochemical pathways and their site of occurrence by selecting the correct combination of alphabets given below;

Column I

- A) Hatch and slack path way
- B) Glycolysis
- C) Krebs cycle
- D) Calvin cycle

Column II

- p. mitochondrial matrix
- q. stroma matrix
- r. granal membranes
- s. mesophyll cells
- t. cell cytoplasm

- 1) A=s, B=t, C=r, D=q
- 3) A=s, B=t, C=q, D=r

- 2) A=s, B=t, C=p, D=q
- 3) A=s, B=t, C=q, D=p

30. An artery is always a vessel

- 1) through which blood with high concentration of oxygen flows to the tissues
- 2) that has blood with very high percentage of oxyhaemoglobin
- 3) that carries blood away from the heart
- 4) which carries blood for oxygenation to the lungs

31. During inspiration, the diaphragm becomes

- 1) flattened
- 2) normal
- 3) oblique
- 4) dome-shaped

32. Opium is got from

- 1) *Thea sinensis*
- 2) *Coffea arabica*
- 3) *Oryza sativa*
- 4) *Papaver somniferum*

33. Statement A: The formation of carbonic acid in RBC is faster than in the plasma.

Statement B: The RBC contains an enzyme called carbonic anhydrase.

Read the above statements and choose the correct answer given below;

- 1) Statement A is correct and statement B is its explanation.
- 2) Statement A is correct and statement B is not its explanation.
- 3) Statement A is correct and statement B is wrong.
- 4) Statement A is wrong and statement B is correct.

34. Conjunctivitis is a viral disease that affects

- 1) eyes
- 2) salivary glands
- 3) stomach
- 4) liver

35. The sequence of a cell cycle is

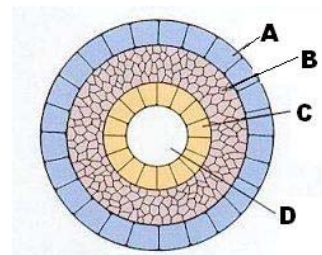
- 1) S, M, G1 and G2
- 2) G1, G2, S, and M
- 3) M, G1, G2, and S
- 4) G1, S, G2 and M

36. The cerebrospinal fluid is secreted by

- 1) Pons varoli
- 2) Choroid plexus
- 3) Medulla oblongata
- 4) Corpus callosum

37. Various parts of the following diagram have been indicated by alphabets. Choose the answer in which these alphabets correctly match with the parts;

- 1) A=endoderm; B=mesoderm; C=ectoderm; D=gut
- 2) A=mesoderm; B=endoderm; C=ectoderm; D=gut
- 3) A=endoderm; B=ectoderm; C=mesoderm; D=gut
- 4) A=ectoderm; B=mesoderm; C=endoderm; D=gut



38. Uremia is due to

- 1) Excess urine in the body
- 2) Excess glucose in the blood
- 3) Excess urea in the blood
- 4) Excess fat in the blood

39. Persistent calyx is not seen in

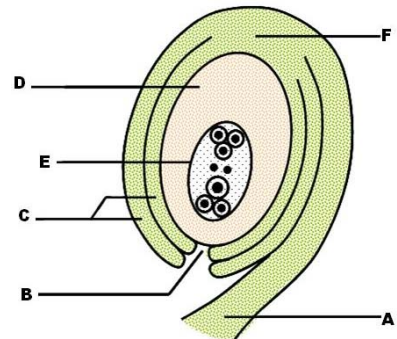
- 1) Capsicum
- 2) Brinjal
- 3) Hibiscus
- 4) Periwinkle

40. 'Gynaecomastia' is a symptom of

- 1) Down's syndrome
- 2) Turner's syndrome
- 3) Klinefelter's syndrome
- 4) Cry-du-chat syndrome

41. Parts of the section of an ovule have been indicated by alphabets. Choose the correct answer.

- 1) A=integuments; B=micropyle; C=funicle; D=nucellus; E=embryo sac; F=chalaza
- 2) A=funicle; B=micropyle; C=integuments; D=nucellus; E=embryo sac; F=chalaza
- 3) A=funicle; B=chalaza; C=integuments; D=nucellus; E=embryo sac; F=micropyle
- 4) A=funicle; B=chalaza; C=integuments; D=embryo sac; E=nucellus; F=micropyle



42. Montreal Protocol refers to

- 1) Persistent organic pollutants
- 2) Global warming and climatic change
- 3) Substances that deplete the ozone
- 4) Biosafety of genetically modified organisms

43. Introduction of foreign gene for improving genotype is

- 1) Tissue culture
- 2) Genetic engineering
- 3) Protoplast fusion
- 4) Mutation

44. Comparison of the frequency of stomata on either side of a leaf can be determined by

- 1) Bell jar experiment
- 2) Ganong's light screen experiment
- 3) Cobalt chloride experiment
- 4) Darwin's photometer

45. Agranular endoplasmic reticulum is involved in the synthesis of

- 1) Protein
- 2) Enzyme
- 3) Carbohydrate
- 4) Vitamin D

46. All of the following occur in mitochondria except

- 1) Citric acid cycle
- 2) Glycogenolysis
- 3) Fatty acid oxidation
- 4) Electron transport chain

47. Match the respiratory organs listed under column I with animals given under column II. Choose the answer which gives the correct combination of alphabets;

Column I

- A. Book lungs
- B. Trachea
- C. Ctenidium
- D. Gills

Column II

- p. Cockroach
- q. Fresh water mussel
- r. Scorpion
- s. Prawn
- t. Starfish

- 1) A=q; B=p; C=r; D=s
- 3) A=r; B=p; C=q; D=s

- 2) A=r; B=p C=q; D=t
- 4) A=t; B=p; C=r; D=q

48. Species preservation is a----- type of conservation.

- 1) *In situ*
- 2) *Ex situ*
- 3) Crop rotation
- 4) Agro forestry

49. Bioinformatics is an interdisciplinary branch which is concerned with the application of

- 1) engineering techniques in biological studies
- 2) chemistry in understanding the biological phenomenon
- 3) physics in understanding various life processes
- 4) information science in analysing the biological data

50. Functionally spinal nerves are

- 1) sensory
- 2) motor
- 3) mixed
- 4) single rooted

51. The scientific name of Zebu is

- 1) *Gallus gallus*
- 2) *Bubalus bubalis*
- 3) *Bombyx mori*
- 4) *Bos indicus*

52. The gases in the spark discharge apparatus are

- 1) NH₃, CH₄, and O₂
- 2) O₂, CO₂ and NH₃
- 3) CO₂, NH₃ and CH₄
- 4) H₂, CH₄ and NH₃

53. Collagen is a

- 1) Carbohydrate
- 2) Lipid
- 3) Fibrous protein
- 4) Globular protein

54. 'Haemophilia' does not occur in women, because

- 1) It is an autosomal recessive character
- 2) Women have to be homozygous which is fatal
- 3) They have only 'X' chromosome
- 4) They are more resistant to this disorder

55. The number of spiracles in cockroach is

- 1) 11 pairs
- 2) 10 pairs
- 3) 8 pairs
- 4) 3 pairs

56. The hyperglycemic factor is

- 1) insulin
- 2) glucagon
- 3) somatostatin
- 4) aldosterone

57. Which hormone is not produced by the pituitary gland ?

- 1) FSH
- 2) MSH
- 3) GH
- 4) ADH

58. Which is common to annelids and Arthropods ?

- 1) presence of sclerites
- 2) metamerism
- 3) closed type of circulatory system
- 4) presence of parapodia

59. Eco RI is

- 1) an exonuclease
- 2) a ligase
- 3) a polymerase
- 4) a restriction endonuclease

60. Which of the following is incorrectly matched ?

- (1) Explant ----- Excised plant part used for callus formation
- (2) Cytokinins ----- Root initiation in callus
- (3) Somatic embryo ----- Embryo produced from a vegetative cell
- (4) Anther culture ----- Haploid plants
- (5) Callus ----- Mass of undifferentiated cells

- 1) 1
- 3) 2

- 2) 3
- 4) 4
