

# MH CET 2018

## (QUESTION WITH ANSWER)

### BIOLOGY

1. Cambium is essential for grafting in plants because

- (1) Cambia of both stock and scion fuse together
- (2) Cambium produces new leaves
- (3) Cambium produces new roots
- (4) Cambium helps in the production of flowers

Ans : (1)

Sol : Cambium is essential for grafting in plants because cambium which consists of meristematic cells of stock and scion fuse together.

2. Which one of the following carbohydrates is a heteropolysaccharide ?

- (1) Cellulose
- (2) Starch
- (3) Glycogen
- (4) Hyaluronic acid

Ans : (4)

Sol : Hyaluronic acid is a heteropolysaccharide. It is made up of glucuronic acid and N-acetyl-D-glucosamine disaccharide units.

3. "Pusa Sadabahar" is resistant to disease.

- (1) Leaf curl and chilli mosaic virus
- (2) Leaf and stripe rust
- (3) Black rot

(4) Curl blight black rot

Ans : (A)

Sol : 'Pusa Sadabahar' is resistance to disease leaf curl and chilli mosaic virus of chilli. Himgiri of wheat is resistance to leaf and stripe rust.

4. The adsorption of water by hydrophilic compounds like cellulose and pectin in root hair cell wall is called

- (1) Diffusion
- (2) Imbibition
- (3) Guttation
- (4) Osmosis

Ans : (2)

Sol : The adsorption of water by hydrophilic compounds like cellulose and pectin in root hair cell wall is called imbibition.

5. In Krebs's cycle, the conversion of oxalosuccinate into  $\alpha$ -ketoglutarate involves

- (1) Oxidation
- (2) Reduction
- (3) Hydration
- (4) Decarboxylation

Ans : (4)

Sol : During Krebs's cycle, oxalosuccinate is converted into  $\alpha$ -ketoglutarate by oxidative decarboxylation.

6. Double fertilization in angiosperms was first discovered by S.G. Nawaschin in plants.

- (1) *Lillium*
- (2) Sunflower
- (3) Wheat
- (4) Mango

Ans : (A)

Sol : Double fertilization in angiosperms was first discovered by S.G. Nawaschin in Lillium plants.

7. Oxidative phosphorylation in eukaryotes occurs during \_\_\_\_\_.

- (1) Photosynthesis
- (2) Protein synthesis
- (3) Lipid synthesis
- (4) Respiration

Ans : (4)

Sol : Oxidative phosphorylation in eukaryotes occurs during respiration (Glycolysis). In oxidative pay off phase of glycolysis in which PGAL undergoes oxidation and phosphorylation.

8. Snapdragon is an example of gene interaction.

- (1) Co-dominance
- (2) Multiple alleles
- (3) Incomplete dominance
- (4) Polygenic inheritance

Ans : (3)

Sol : Snapdragon is an example of incomplete dominance.

9. In one nucleosome, which one of the following histone molecule is **NOT** double ?

- |                          |                          |
|--------------------------|--------------------------|
| (1) <b>H<sub>4</sub></b> | (2) <b>H<sub>3</sub></b> |
| (3) <b>H<sub>2</sub></b> | (4) <b>H<sub>1</sub></b> |

Ans : (4)

Sol : H<sub>1</sub> histone is present in the linker region. In the nucleosome, two molecules of each of H<sub>2</sub>A, H<sub>2</sub>B, H<sub>3</sub> and H<sub>4</sub> are present to form octamer.

10. Which one of the following is **NOT** true about *Salvia flower* ?

- (1) Flowers are bisexual
- (2) Flowers are protandrous
- (3) The upper branch of bifurcated connective bears sterile anther lobe and lower branch bears fertile anther lobe
- (4) The upper branch of bifurcated connective bears fertile anther lobe and lower branch bears sterile anther lobe

Ans : (4)

11. Identify the **INCORRECT** statement regarding Bt Cotton.

- (1) Dried spores of *Bacillus thuringiensis* are sprayed on its vulnerable leaves
- (2) It releases toxin that causes swelling in the gut of insect that ingest its leaves
- (3) It is a transgenic plant
- (4) It can produce toxin due to gene introduced in it by transgenesis

Ans : (1)

12. In angiosperms, the fusion of male gamete with the secondary nucleus is considered as "Second fertilization" because

- (1) It is fusion of two nuclei
- (2) Secondary nucleus is a sister nucleus of the egg
- (3) It takes place in embryo sac
- (4) It takes place after pollination

Ans : (2)

Sol : In angiosperms, secondary nucleus and egg cell is formed from haploid nucleus of functional megaspore which undergoes three successive free-nuclear mitotic division out of which one nucleus from either of the pole come to the centre and then functions as

polar nuclei. So, secondary nucleus is a sister of nucleus of the egg.

**13.** In *Mirabilis jalapa*, when red and white varieties are crossed, the hybrid obtained will be \_\_\_\_\_ pink.

- (1) 25%                      (2) 50%  
(3) 75%                      (4) 100%

Ans : (4)

Sol : In *Mirabilis jalapa*, incomplete dominance is seen. So all hybrid obtained will be 100% pink..

**14.** During r-DNA technology, which one of the following enzymes is used for cleaving DNA molecule ?

- (1) Exonuclease  
(2) Endonuclease  
(3) Restriction endonuclease  
(4) Helicase

Ans : (3)

Sol : DNA technology restriction endonuclease enzyme is used for cleaving DNA molecule.

**15.** Chipko Movement took place in

- (1) Montreal  
(2) Jodhpur  
(3) Bangalore  
(4) Garhwal Himalayas

Ans : (4)

Sol : The Chipka movement started in the early 1970s in the Garhwal of Uttarakhand with growing awareness towards rapid deforestation.

**16.** In plants, Richmond-Lang effect is

- (1) Delaying the onset of senescence by application of cytokinin

- (2) Prevention of abscission of leaves and flowers by auxin application  
(3) Increasing commercial value of leafy vegetables by inducing leaf expansion through gibberellin application  
(4) Breaking dormancy of seeds and buds through application of ethylene

Ans : (1)

Sol : Cytokinins delays the onset of senescence by application of cytokinins.

**17.** In a person suffering from sickle cell anaemia, the \_\_\_\_\_ becomes half moon shaped.

- (1) RBC                      (2) Thrombocyte  
(3) Monocyte              (4) Lymphocyte

Ans : (A)

Sol : In a person suffering from sickle cell anaemia the R.B.C's become half moon shaped.

**18.** Which one of the following is true about respiration in green plants ? Respiration takes place \_\_\_\_\_.

- (1) Only when stomata are open  
(2) Only when photosynthesis stops  
(3) Only when photosynthesis is in progress  
(4) Throughout life

Ans : (4)

Sol : Respiration is very important process for survival of the living organisms as it oxidizes respiratory substrate and energy is released in the form of ATP which is required for all metabolic activities.

**19.** In eukaryotes, the anticodon of tRNA that pairs with the start codon of mRNA during translation is

- (1) UAA                      (2) UCA

- (3) UAC                      (4) UUU

Ans : (3)

Sol : In eukaryotes, initial codon on m-RNA is AUG. During translation, t-RNA, anticodons are exactly complementary to m-RNA. Hence anticodon will be UAC. [A = U, U = A, C ≡ G]

**20.** Biopatent is granted for biological entities by authority of a country.

- (1) Government  
(2) Educational institute  
(3) Scientist  
(4) Business

Ans : (1)

Sol : Biopatent is granted for biological entities by government authority of a country.

**21.** The exine of pollen grain is made up of

- (1) Chitin  
(2) Cellulose  
(3) Sporopollenin  
(4) Hemicellulose

Ans : (3)

Sol : The exine of pollen grain is made up of sporopollenin.

**22.** Continuous upward flow of water stream in tall trees is maintained due to

- (1) Guttation and transpiration  
(2) Transpiration pull only  
(3) Cohesive force between H<sub>2</sub>O molecules only  
(4) Cohesive force between H<sub>2</sub>O molecules and transpiration pull

Ans : (4)

Sol : Continuous upward flow of water stream in tall tree is maintained due to cohesive force between H<sub>2</sub>O molecules and transpiration pull.

**23.** Which of the following is **NOT** correct regarding plasmids ?

- (1) They are small, extra chromosomal circular form of DNA  
(2) They are naturally found in bacteria only  
(3) They are 'replicons' capable of autonomous replication within a suitable host  
(4) They carry genes related to survival and reproduction of carrier bacterium under unfavourable conditions

Ans : (4)

**24.** Algae used for the discovery of path of carbon in dark reaction were \_\_\_\_\_.

- (1) *Spirogyra* and *Chlorella*  
(2) *Spirulina* and *Scenedesmus*  
(3) *Chlorella* and *Scenedesmus*  
(4) *Spirogyra* and *Spirulina*

Ans : (3)

Sol : Algae used for the discovery of path of carbon in dark reaction were chlorella and scenedesmus.

**25.** Which one of the following is **NOT** a plant like protist?

- (1) Desmid  
(2) Dinoflagellate  
(3) Diatom  
(4) Slime mould

Ans. (4)

Sol. Desmid, Dinoflagellate and Diatom are the plant - like protist. Slime mould is fungi - like protist.

**26.** In case of anaerobic respiration, the RQ is \_\_\_\_\_.

- (1) Always less than one

- (2) Always more than one
- (3) Always infinity
- (4) Variable on the basis of substrate

Ans. (3)

Sol. In case of anaerobic respiration, the RQ is always infinity.

**27.** Which one of the following is **NOT** true about self pollination?

- (1) A sure method
- (2) Most economic
- (3) Maintains genetic purity
- (4) Favours evolution

Ans. (4)

Sol.

**28.** In biogas plant, the role of acidogenic bacteria is to.

- (1) Convert monomers to organic acids
- (2) Convert monomers to complex polymers
- (3) Transform acetic acid to biogas
- (4) Digest fungi in the sludge

Ans. (1)

Sol. Monomers are converted into organic acids by acidogenic bacteria.

**29.** A part of photosynthetically fixed  $\text{CO}_2$  goes back to the atmosphere due to

- (1) Cyclic photophosphorylation
- (2) Non-cyclic photophosphorylation
- (3) Dark reaction
- (4) Photorespiration

Ans. (4)

Sol. A part of photosynthetically fixed  $\text{CO}_2$  goes back to the atmosphere due to photorespiration.

**30.** When glucose is the normal energy source in bacterial cell \_\_\_\_\_ gene transcribes a repressor mRNA.

(1) z

(2) y

(3) a

(4) i

Ans. (4)

Sol. 'i' gene (Regulatory gene) transcribes a repressor mRNA when glucose is the normal energy source in bacterial cell.

**31.** Which character of angiosperms helped in their dominance on earth?

- (1) Formation of seeds
- (2) Formation of endosperm
- (3) Double fertilization
- (4) Presence of xylem vessels

Ans. (3)

Sol. Double fertilization is the characteristic feature of angiosperms.

**32.** Identify the **WRONG** statement regarding the process in sewage treatment

- (1) Primary treatment is a physical process
- (2) Secondary treatment is a biological process
- (3) The BOD of effluent increases after secondary treatment
- (4) The tanks used for tertiary treatment are anaerobic sludge digesters

Ans. (3)

Sol. The BOD of effluent decreases after secondary treatment as bacteria decompose most of the organic matter in the effluents.

**33.** A type of seed germination in which epicotyl region of embryo elongates rapidly to pull plumule out of the soil surface is called germination

- (1) Hypogeal
- (2) Epigeal
- (3) Viviparous

(4) Invitro

Ans. (1)

Sol. Hypogeal germination is a type of seed germination in which epicotyl region of embryo elongates rapidly and brings the plumule above the soil surface.

**34.** In a dihybrid cross with contrasting characters, the number of different genotypes obtained in  $F_2$  generation are

- (1) 16
- (2) 9
- (3) 6
- (4) 4

Ans. (2)

Sol. Dierent genotypes obtained

The genotypic ratio is 1:2:2:4:1:2:1:2:1

**35.** Which one of the following is **NOT** caused by global warming?

- (1) Melting of glacier
- (2) Change in rainfall pattern
- (3) Increase in sea level
- (4) Increase in crop production

Ans. (4)

Sol. Global warming causes melting of glacier, change in rainfall pattern and increase in sea level.

**36.** During cyclic photophosphorylation, formation of ATP occurs between which of the following two compounds?

- (1) FRS  $\rightarrow$  Ferredoxin
- (2) Cytochrome  $b_6 \rightarrow$  Cytochrome f
- (3) Cytochrome f  $\rightarrow$  Plastocyanin
- (4) Plastocyanin  $\rightarrow$  Ionised Chl - a

Ans. (2)

Sol. In cyclic photophosphorylation, formation of ATP occurs between

Cytochrome  $b_6 \rightarrow$  Cytochrome f

Ferredoxin  $\rightarrow$  Cytochrome  $b_6$

**37.** The development of male gametes in the pollen grains in angiosperms involves \_\_\_\_

- (1) Only one mitotic division
- (2) Two mitotic divisions
- (3) Both mitotic and meiotic divisions
- (4) Only one meiotic divisions

Ans. (1)

Sol. After pollination, 2 celled pollen grain is deposited on stigma surface and it undergoes germination. When generative cell undergoes mitosis only once for formation of 2 male gametes.

**38.** In the system of classification, which one of the following is **NOT** a category?

- (1) Kingdom
- (2) Series
- (3) Angiospermae
- (4) Genus

Ans. (3)

Sol. Angiospermae is not a category. Angiospermae is a division of Angiosperms.

**39.** Mendel obtained pure lines by selfing yellow round seeds as female parent and green wrinkled as male parent for \_\_\_\_ generations.

- (1) 2
- (2) 3
- (3) 4
- (4) 5

Ans. (2)

Sol. Mendel obtained pure lines by selfing yellow round seeds as female parent and green wrinkled as male parent for 3 generations.

40. The enzyme Taq polymerase used in PCR technique is obtained from \_\_\_\_

- (1) *Salmonella typhimurium*
- (2) *Thermus aquaticus*
- (3) *Rhizobium phaseoli*
- (4) *Bacillus thuringiensis*

Ans. (2)

Sol. The enzyme Taq polymerase used in PCR technique is obtained from *Thermus aquaticus*.

41. Which one of the following is **NOT** true about vegetative propagation

- (1) Easy and cheaper method
- (2) Rapid propagation
- (3) Production of genetically similar plants
- (4) Production of genetically dissimilar plants

Ans. (4)

Sol. Vegetative propagation results on production of genetically similar plants as this is a type of sexual reproduction.

42. Which one of the following characteristic is **NOT** shown by a virus?

- (1) They are acellular
- (2) They can be crystallised
- (3) Active outside the hosts body
- (4) Have genetic material

Ans. (3)

Sol. Virus is NOT active outside the host body.

43. The co-enzyme which acts as hydrogen acceptor during light reaction is \_\_\_\_.

- (1) PQ
- (2) FAD
- (3) CO-Q
- (4) NADP

Ans. (4)

Sol. NADP is the hydrogen acceptor during light reaction.

44. The sequential events that occur during protein synthesis are \_\_

- (1) Protein → Translation → Transcription DNA
- (2) DNA → Transcription → Transiation Protein
- (3) Translation → Transcription → DNA Protein
- (4) DNA → Protein → Translation Transcription

Ans. (2)

Sol. This is central Dogma for protein synthesis.

45. The net gain of ATP molecules during aerobic breakdown of one glucose molecule is \_\_\_\_.

- (1) 40
- (2) 38
- (3) 36
- (4) 30

Ans. (2)

Sol. 38 ATP molecules are produced during breakdown of glucose molecule.

46. The 'eyes' of potato are located at the \_\_\_\_.

- (1) Root apex
- (2) Leaf apex
- (3) Nodes
- (4) Inter-nodes

Ans. (3)

Sol. A stem tuber has many notches on its surface called 'eyes'. Each 'eye' is actually at a node and constant of one or more small axillary buds and reduced scale leaves.

**47.** Ozone layer in the troposphere is for plants and animals

- (1) Good
- (2) Harmful
- (3) Providing protection from UV rays
- (4) Releasing more oxygen

Ans. (2)

Sol. Ozone layer in stratosphere is provides protection from UV rays while ozone layer in troposphere is also known as bad ozone because it is harmful to breathe and it damages crops trees and other vegetation. And it also harmful for animals.

**48.** Steroids are characterised by \_\_\_\_ in their structure

- (1) Carbon atom arranged in four inter-locking rings
- (2) Magnesium atom arranged in the centre of tetrapyrrole
- (3) Two, six - carbon rings
- (4) Skeletal heterocyclic ring of hydrocarbons

Ans. (1)

Sol. Steroids are characterised by carbon atom arranged in four inter-locking rings.

**49.** Chl-a and Chl-b shown maximum absorption in \_\_\_\_ regions of visible light

- (1) Blue, violet and red
- (2) Red, indigo and green
- (3) Yellow, blue and red
- (4) Blue, violet and green

Ans. (1)

Sol. Chl-a and Chl-b shown maximum absorption in Blue, violet and red regions of visible light.

**50.** Explant used for the production of disease free plants is \_\_\_\_\_.

- (1) Vascular tissue
- (2) Apical meristem
- (3) Intrafascicular cambium
- (4) Cork cambium

Ans. (2)

Sol. Explant used for the production of disease free plants is apical meristem.

**51.** Explant used for the production of disease free plants is \_\_\_\_\_

- (1) Vascular tissue
- (2) Apical meristem
- (3) Intrafascicular cambium
- (4) Cork cambium

Ans. (4)

Sol. Sacculina and crab show parasitism. It is an intra specific interaction in which one of the species (parasite) is benefited while the other one (host) is harmed.

**52.** Match the Column I and II and select the a appropriate option with the given code.

	Column - I		Column - II
(P)	Coronary sinus	(i)	Mitral valve
(Q)	Base of systemic aorta	(ii)	Eustachian valve
(R)	Left atrioventricular valve	(iii)	Semilunar valves
(S)	Opening of inferior vena cava	(iv)	The besian valve

- (1) P - iv, Q - iii, R - i, S - ii
- (2) P - iii, Q - iv, R - ii, S - i
- (3) P - ii, Q - i, R - iv, S - iii
- (4) P - i, Q - ii, R - iii, S - iv

Ans. (1)

Sol. Coronary sinus - (iv)  
Base of systemic aorta - (iii)  
Le atrioventricular valve - (i)



Opening of inferior vena cava - (ii)

**53.** Density of population increases when \_\_\_\_\_

- (1) Mortality and emigration increases
- (2) Natality and immigration increases
- (3) Mortality increases and immigration decreases
- (4) Natality decreases and emigration increases

Ans. (2)

Sol. Density increases when birth rate (Natality) and Immigration (inflow of population) increases.

**54.** Total number of linkage groups in honeybee is

- (1) 16
- (2) 23
- (3) 32
- (4) 46

Ans. (1)

Sol. Linkage groups in a species correspond to its haploid number. In honeybees, total chromosomes = 32

$$\therefore \text{Linkage groups} = \frac{32}{2}$$

Haploid no. of chromosome in honeybee = 16

**55.** Hormone erythropoietin is produced by \_\_\_\_\_

- (1) Heart
- (2) Kidney
- (3) Ovary
- (4) Pancreas

Ans. (2)

Sol. Erythropoietin is produced in the kidneys and plays a key role in production of RBC's.

**56.** Co-enzymes of Electron Transport Chain in mitochondria are \_\_\_\_\_

- (1) Cytochromes, dehydrogenases, flavoproteins

- (2) Cytochromes, catalases, peroxidases
- (3) Hyaluronidases, dehydrogenases, hydrolases
- (4) Flavoproteins, anhydrases, phosphatases

Ans. (1)

Sol. Co-enzymes of Electron Transport Chain in mitochondria are cytochromes, dehydrogenases, flavoproteins

**57.** In the second trimester of pregnancy, there is decline in the level of \_\_\_\_\_

- (1) ACTH
- (2) ICSH
- (3) HCG
- (4) MSH

Ans. (3)

Sol. In second trimester, the hormone levels stabilizes as HCG declines. Corpus luteum deteriorates and placenta completely takes over the production of progesterone which maintains the pregnancy.

**58.** Heavily built, short prehistoric man having cranial capacity of about 1450 C.C is \_\_\_\_\_

- (1) Homo sapiens fossilis
- (2) Homo erectus
- (3) Homo heidelbergensis
- (4) Homo neanderthalensis

Ans. (4)

Sol. Its fossil was invented by J.K. Fuhlort on Neanderthal valley, Germany.

C.C = 1450 mL

These were heavily built & short.

**59.** Ventrolateral walls of cerebrum are called \_\_\_\_\_

- (1) Crura cerebrii
- (2) Corpora lutea

(3) Corpora quadrigemina

(4) Corpora striata

Ans. (4)

Sol. Ventrolateral walls of cerebrum is corpora striata.

60. Carbon monoxide combines with haemoglobin to form \_\_\_\_\_

(1) Carbaminohaemoglobin

(2) Carbonic acid

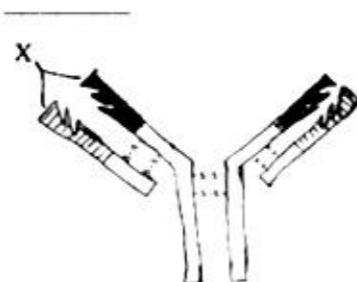
(3) Carboxyhaemoglobin

(4) Cytochrome oxidase

Ans. (3)

Sol. Carbon monoxide combines with haemoglobin and forms Carboxyhaemoglobin. Hb. has more affinity for CO than for oxygen.

61. In the given diagram of antibody, 'X' indicates \_



(1) Constant region of heavy chain

(2) Antigen binding site

(3) Disulphide bond

(4) Light chain

Ans. (2)

Sol. X is antigen binding site. Antigen combines with the antibody at this site in a lock and key manner.

62. The termination of process of oogenesis is indicated by formation of \_\_\_\_\_

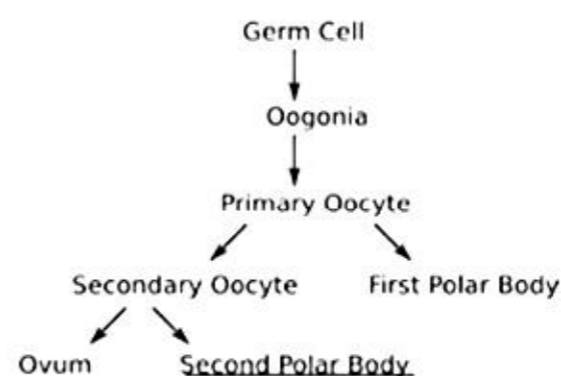
(1) Secondary oocyte

(2) First polar body

(3) Second polar body

(4) Perivitelline space

Ans. (3)



Sol.

63. Dr. Lalji Singh obtained radioactive DNA probe from Y chromosome of \_\_\_\_\_

(1) Female drosophila

(2) Female banded krait

(3) Male drosophila

(4) Male banded krait

Ans. (2)

Sol. Dr. Lalji Singh obtained radioactive DNA probe from Y chromosome of female banded krait.

64. Which one of the following is NOT the in-situ conservation of biodiversity ?

(1) Zoological parks

(2) Wildlife sanctuaries

(3) National parks

(4) Biosphere reserves

Ans. (1)

Sol. Zoological parks are ex-situ conservation of biodiversity.

65. Which of the following is a unicellular gland ?

(1) Goblet cell

(2) Kupffer's cell

(3) Pedicel

(4) Neuroglial cell

Ans. (1)

Sol. Unicellular glands are single celled secretory cells. Goblet & mucous cells are major example of unicellular glands in humans.

66. In ovary, estrogen is secreted by \_\_\_\_\_

- (1) Follicular cells
- (2) Corona radiata cells
- (3) Sertoli cells
- (4) Primary oocyte

Ans. (1)

Sol.

Ovary shows cyclic changes during menstrual cycle. Cortical region shows different stages of development of ovarian follicles or Graafian follicles. Each follicle has many layers of follicle cells. The follicle cells of a maturing follicle secrete estrogen.

67. Select the CORRECT statement.

- (1) Sex-linked traits appear more frequently in females
- (1) Colour blindness is caused due to proper formation of colour sensitive cells
- (2) Human females have double dose of X chromosome
- (4) Drone bees produce sperms by meiosis

Ans. (3)

Sol. Human females are XX and hence they show double dose of X chromosome.

Sex linked traits appear more frequently in males and females are carriers.

Colour blindness is due to improper formation of cones (colour sensitive cells).

Drone bees are infertile males.

68. Heart attack is also called \_\_\_\_\_

- (1) Arteriosclerosis
- (2) Angina pectoris
- (3) Bradycardia
- (4) Myocardial infarction

Ans. (4)

Sol. Myocardial infarction is commonly known as heart attack. It occurs when blood

flow decreases or stops to a part of the heart causing damage to heart muscle.

69. Molecular evolution and origin of life

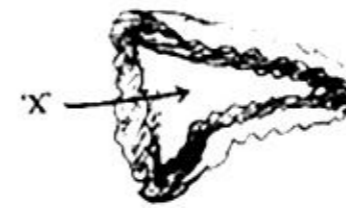
occurred in \_\_\_\_\_ Era.

- (1) Archeozoic
- (2) Cenozoic
- (3) Palaeozoic
- (4) Proterozoic

Ans. (1)

Sol. Molecular evolution and origin of Earth was observed in Archeozoic Era.

70. The part labelled 'X' in given diagram of T.S. of adrenal gland secretes \_\_\_\_\_



- (1) Calcitonin
- (2) Catecholamines
- (3) Cortisol
- (4) Mineralocorticoids

Ans. (2)

Sol. X is adrenal Medulla. It secretes two hormones known as adrenaline (epinephrine) and noradrenaline (nor epinephrine). These are together known as Catecholamines.

71. Given below are cell organelles and their functions. Select the INCORRECT match.

- (1) Lysosome — Phagocytosis
- (2) Centriole — Spindle formation
- (3) Sphaerosomes — Storage and synthesis of fats
- (4) Leucoplast — Photosynthesis

Ans. (4)

Sol. Chloroplast is plastid for Photosynthesis.

Leucoplast is plastid for storage of starch, lipids & proteins.

72. An extra sex chromosome is present in \_\_\_\_\_

- 
- (1) Turner's syndrome
  - (2) Thalassemia
  - (3) Klinefelter's syndrome
  - (4) Down's syndrome

Ans. (3)

Sol. Klinefelter's syndrome has 44A + XXY one extra X-chromosome is present.

73. Given below is the diagram of Animal cell.

Select option giving correct identification of labels X and Y respectively



- (1) X - Smooth endoplasmic reticulum, Y - Rough endoplasmic reticulum
- (2) X - Microvilli, Y - Golgi apparatus
- (3) X - Endoplasmic reticulum, Y - Mitochondria
- (4) X - Centrioles, Y - Microvilli

Ans. (2)

Sol. X ⇒ Microvilli

Y ⇒ Golgi apparatus

74. Parasympathetic ganglia are located \_\_\_\_\_

- (1) In cortex of cerebrum
- (2) In medulla of cerebellum
- (3) On the side of visceral organs
- (4) On either side of vertebral column

Ans. (3)

Sol. Parasympathetic ganglia are located on the side of visceral organs like heart, kidney etc.

75. One of the following groups of enzymes forms contents of succus entericus

- (1) Maltase, Enterokinase, Trypsin
- (2) Trypsin, Pepsin, Lactase
- (3) Nuclease, Amylase, Chymotrypsin
- (4) Sucrase, Maltase, Dipeptidase

Ans. (4)

Sol. Succus entericus contains Sucrase, Maltase, Dipeptidase

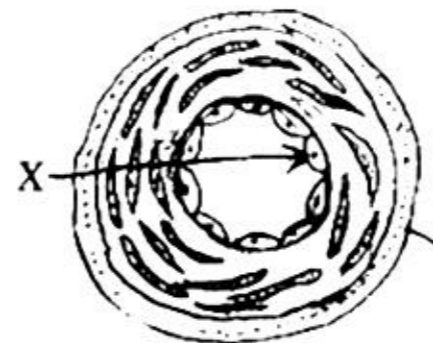
76. Adam's apple is also called \_\_\_\_

- (1) Vestibule
- (2) Pharynx
- (3) Osteon
- (4) Larynx

Ans. (4)

Sol. Adam's apple is Larynx (Sound Box) More prominent in Males

77. In the following diagram of T.S. of Artery, the region marked 'X' is



- (1) Tunica media
- (2) Tunica externa
- (3) Tunica interna
- (4) Tunica albuginea

Ans. (3)

Sol. Tunica interna is the innermost layer

78. Which of the following processes is initiated by FSH ?

- (1) Degeneration of endometrium
- (2) Growth of Graafian follicle
- (3) Maturation of spermatozoa
- (4) Secretion progesterone

Ans. (2)

Sol. FSH is Folicle Stimulating Hormone brings about maturation of graafian follicle.

**79.** The immunity developed by a child after attack of measles is \_\_\_\_\_ immunity

- (1) Natural acquired active
- (2) Artificial acquired active
- (3) Natural acquired passive
- (4) Artificial acquired passive

Ans. (1)

Sol. A child aer attack of measles develops Natural Acquired active Immunity. Natural Acquired active Immunity is the immunity acquired due to infection

**80.** As an example of adaptive radiation, Darwin observed a variety of Finches in

- (1) South Africa
- (2) Madagascar
- (3) Galapagos Islands
- (4) East Indies

Ans. (3)

Sol. Darwin observed a variety of Finches in Galapagos Islands

**81.** Following are various symptoms of Marasmus EXCEPT

- (1) Oedema of lower legs and face
- (2) Dry, wrinkled skin
- (3) Extreme leanness
- (4) Atrophy of digestive glands

Ans. (1)

Sol. Marasmus is prolonged protein energy malnutrition. Atrophy of digestive glands & intestinal mucosa is seen due to which absorption of food stops. There is no oedema seen in Marasmus, oedema is a characteristic of kwashiorkor

**82.** Which of the following is NOT a connecting link ?

- (1) *Archeopteryx*
- (2) *Dryopithecus*
- (3) *Ichthyostegia*
- (4) *Seymouria*

Ans. (2)

Sol. *Dryopithecus* is not a connecting link  
*Archeopteryx* is connecting link between birds & Reptils  
*Ichthyostegia* is connecting link between Fish & Amphibian  
*Seymouria* is connecting link between Amphobians & Reptils

**83.** Oogonia arise form the endoderm of the \_\_\_\_\_

- (1) Allantois
- (2) Chorion
- (3) Trophoblast
- (4) Yolk-sac

Ans. (4)

Sol. Oogonia arise form the endoderm of the yolk sac and migrate to ovaries during embryonic development

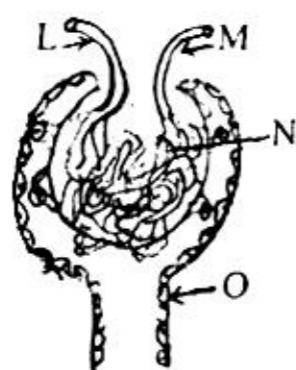
**84.** Lacteals absorb \_\_\_\_\_

- (1) Amino acids
- (2) Fatty acids and glycerol
- (3) Glucose and fructose
- (4) Amylose and maltose

Ans. (2)

Sol. Lacteals absorb Fatty acids and glycerol

**85.** In the given diagram of Malpighian body, blood is filtered from part labelled



- (1) L
- (2) M
- (3) N
- (4) O

Ans. (3)

Sol. Blood is filtered from Glomerulus. In the given diagram 'N' is the Glomerulus. L- Afferent arteriole, M- efferent arteriole. O- Neck of Bowman's capsule.

86. Majority of kidney stones consist crystals of \_\_\_\_\_

- (1) Calcium oxalate, sodium bicarbonate
- (2) Calcium oxalate, calcium phosphate
- (3) Calcium phosphate, sodium chloride
- (4) Calcium carbonate, copper sulphate

Ans. (2)

Sol. There are several types of kidney stones based on type of crystals of which they consist. The majority are calcium oxalate stones, followed by calcium phosphate stones

87. Each testicular lobule contains \_\_\_\_\_ convoluted seminiferous tubules

- (1) 1 to 4
- (2) 5 to 7
- (3) 8 to 10
- (4) 11 to 14

Ans. (1)

Sol. In each testis, there are 200 - 300 lobules. In each lobule there are 1-4 convoluted loops called seminiferous tubules.

88. Select the **INCORRECT** statement with reference to DNA fingerprinting. It is \_\_\_\_\_

- (1) PCR based technique
- (2) Based on fingerprints of individual
- (3) Used in forensic medicine technique
- (4) Used to test paternity

Ans. (2)

Sol. DNA fingerprinting is not based on fingerprints of individual

89. Lac is used in the manufacture of following products EXCEPT

- (1) Toys
- (2) Polish
- (3) Isinglass
- (4) Ink

Ans. (3)

Sol. Lac is used in the manufacture of Toys, Polish, Ink etc.

90. Which of the following group of animals is guanotelic ?

- (1) Labeo, Turtle, Camel
- (2) Lizard, Snake, Scorpion
- (3) Penguin, Spider, Scorpion
- (4) Spider, Scorpion, Snake

Ans. (3)

Sol. Spiders, Scorpions, Penguins excrete mostly guanine and hence are called guanotelic

91. Which of the following is an avascular tissue?

- (1) Connective
- (2) Epithelial
- (3) Muscular
- (4) Nervous

Ans. (2)

Sol. Epithelial tissue lacks blood vessels and hence is an avascular tissue

92. Protein  $\alpha$  - 1 - antitrypsin is used to treat \_\_\_\_\_.

- (1) Alzheimer's disease
- (2) Cancer
- (3) Emphysema
- (4) Rheumatoid Arthritis

Ans. (3)

Sol. Transgenic animals would be useful as bioreactors to produce important proteins such as  $\alpha$  - 1 antitrypsin. This is used to treat emphysema

93. In the menstrual cycle, the level of progesterone reaches its maximum in the \_\_\_\_\_.

- (1) Secretory phase
- (2) Proliferative phase
- (3) Ovulatory phase
- (4) Menstrual phase

Ans. (1)

Sol. Level of progesterone reaches its maximum in the Secretory phase

94. Mice are most successfully produced transgenic animals due to following :

- (1) Hypo ovulation in estrous cycle
- (2) Difficulty in reimplantation
- (3) Production of 2-3 young ones
- (4) Short generation time

Ans. (4)

Sol. Mice are most successfully produced transgenic animals due to short generation time

95. Pneumatic bones and left sided ovary is characteristic feature of adaptation

- (1) Arboreal
- (2) Aerial
- (3) Cursorial

(4) Fossorial

Ans. (2)

Sol. Pneumatic bones and left sided ovary is characteristic feature of Aerial adaptation

96. Regeneration as a method of asexual reproduction is observed in \_\_\_\_\_.

- (1) *Ascaris*
- (2) *Planaria*
- (3) Prawn
- (4) *Salmonella*

Ans. (2)

Sol. Regeneration as a type of Asexual Reproduction observed in Planaria

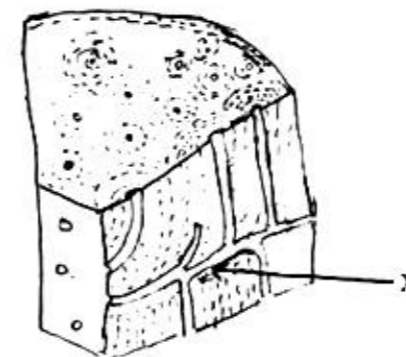
97. Branching tree like processes of white matter extending into grey cortex of cerebellum is called \_\_\_\_\_.

- (1) Arbor vitae
- (2) Gyri
- (3) Crura cerebrii
- (4) Thalami

Ans. (1)

Sol. Arbor vitae is seen in grey cortex of cerebellum

98. In the given diagram of mammalian bone, X indicates



- (1) Bone marrow
- (2) Haversian canal
- (3) Inner circumferential lamella
- (4) Volkmann's canal

Ans. (4)

Sol. Two adjacent Haversian systems are connected by Volkmann's canal

**99.** All of the following are marine Fish EXCEPT

- (1) Cirrhina
- (2) Herpedon
- (3) Sardinella
- (4) Rastrelliger

Ans. (1)

Sol. Cirrhina is fresh water fish

**100.** Heroin is extracted from the latex of plant

\_\_\_\_\_.

- (1) Atropa belladonna
- (2) Claviceps purpurea
- (3) Erythroxylum coca
- (4) Papaver somniferum

Ans. (4)

Sol. Heroin is extracted from Papaver Somniferum