# MHT CET 2022 Biology Memory Based Question Paper PDF

**1.** Following are various types of movements seen in plants EXCEPT _____.

(A) thigmotactic
(B) chemotactic
(C) phototropic
(D) metastatic

**2.** Protective membrane, Pia mater is _____ of CNS.

(A) middle, thin and web like layer
(B) innermost, delicate and vascular membrane
(C) outermost, vascular, web like membrane
(D) outermost, non-vascular, thick membrane

**3.** During translation in protein synthesis, joining of larger and smaller subunit of ribosome requires _____ ions.

(A) $Mn^{++}$
(B) $Cl^{-}$
(C) $Ca^{++}$
(D) $Mg^{++}$

**4.** The number of ATP molecules gained in aerobic respiration are how many times more than that produced in anaerobic respiration?

(A) 2
(B) 12
(C) 15
(D) 19

**5.** While studying gametogenesis, Henking observed an 'x' body in _____.

(A) *Bonellia viridis*
(B) *Anasa tristis*
(C) *Drosophila melanogaster*

(D) *Plasmodium vivax*

**6.** In the $F_2$ generation of a Mendelian monohybrid cross, how many retain the parental genotypes?

(A) 100%

(B) 25%

(C) 50%

(D) 75%

**7.** How many of the following statements are true about the germination of a pollen grain?
A. Germination of pollen grain.
B. Motile male gametes.
C. Two male gametes and one female gamete.
D. Pollen grain without exine.
E. Tube nucleus at the tip of pollen tube.

(A) A and E are true

(B) B and D are true

(C) A and B are true

(D) B and C are true

**8.** Vocal cords are present in _____.

(A) bronchi

(B) trachea

(C) pharynx

(D) larynx

**9.** Which one of the following is NOT a mechanical means of birth control?

(A) Vaults

(B) Cervical caps

(C) Jellies

(D) Diaphragm

**10.** Which one of the following is a type of hyperploidy?

(A) $2n+2$

(B) $5n$

(C) $2n - 2$

(D) $4n$

**11.** Given below are two statements.
Statement-I: Heterocatalytic function of DNA includes transcription and translation.
Statement-II: A unique feature of DNA molecule which helps in its semiconservative duplication is the complementary nature of two strands.
In the light of above statement, choose the correct answer from the options given below.

(A) Statement-I is incorrect but Statement-II is correct.

(B) Statement-I is correct but Statement-II is incorrect.

(C) Both statement-I and Statement-II are correct.

(D) Both Statement-I and Statement-II are incorrect.

**12.** Which one of the following is a restriction enzyme?

(A) *BamH I*

(B) pUC

(C) M13 phage

(D) pBR322

**13.** Water is best transporting medium in plants for dissolved minerals and food molecules. Choose correct option considering following properties of water:
A. Water is in liquid form at room temperature.
B. Water is best solvent for most of the solutes.
C. In pure form its pH is neutral.
D. It is most active inorganic compound.

(A) only A is correct

(B) only A and B are correct

(C) A, B and C are correct

(D) All are correct

**14.** Which one of the following statements is NOT true regarding crossing over during meiosis?

(A) Crossing over increases the chances of variations.

(B) It is necessary for natural selection.

(C) It is an universal phenomenon.

(D) Closely located linked genes are always separated during crossing over.

**15.** Different parts of brain are interconnected by _____.

(A) hypothalamus
(B) limbic system
(C) cerebrum
(D) reticular activating system

**16.** Industrial melanism is an example of _____.

(A) seasonal isolation
(B) natural selection
(C) habitat isolation
(D) hybrid sterility

**17.** The enzymes required for ETS are arranged in/on _____.

(A) inner membrane of mitochondria
(B) mitochondrial matrix
(C) outer chamber of mitochondria
(D) outer membrane of mitochondria

**18.** Cattle dung used as a substrate in biogas production is a rich source of _____.

(A) cellulose
(B) fatty acids
(C) proteins
(D) lipids

**19.** If organisms are facing localized stressful conditions in their habitat for a period like winter, then they will _____ to hospitable region.

(A) immigrate
(B) regulate
(C) migrate
(D) conform

**20.** Which among the following shows highest amphibian species diversity?

(A) Eastern Ghats

(B) Himalayas

(C) Rann of Kutch

(D) Western Ghats

**21.** In 'Bt Cotton', the 'Bt' protein _____.

(A) stops the reproductive cycle of the pest insect

(B) improves the length of fibre

(C) brings about paralysis of midgut of pest insect

(D) improves the oil content of seeds

**22.** After double fertilization in angiosperms, the products of syngamy and triple fusion are _____ and _____ respectively.

(A) diploid embryo and triploid endosperm

(B) diploid embryo and diploid endosperm

(C) triploid embryo and haploid endosperm

(D) triploid embryo and diploid endosperm

**23.** Select mixed type of cranial nerves from the following list:
a. Pathetic b. Trigeminal c. Facial d. Auditory e. Glossopharyngeal

(A) a, c, d

(B) b, c, e

(C) c, d, e

(D) b, d, e

**24.** Which one of the following shows more than one ovule?

(A) Rice

(B) Mango

(C) Tomato

(D) Wheat

**25.** Arterial inelasticity or hardening of arteries in human is called _____.

(A) atherosclerosis

(B) bradycardia

(C) arteriosclerosis

(D) tachycardia

**26.** pH of human blood is _____.

(A) 7.6
(B) 7.2
(C) 7.4
(D) 7.7

**27.** In *Taraxacum*, the unreduced embryo sac is derived from _____.

(A) haploid nucellus tissue
(B) diploid microspore mother cell
(C) diploid megaspore mother cell
(D) functional megaspore

**28.** In lac operon, the gene 'i' codes for repressor protein, the letter 'i' indicates _____.

(A) inhibitor
(B) initiator
(C) incorporator
(D) inducer

**29.** Distal narrow part of oviduct opening into uterus is called _____.

(A) ampulla
(B) fimbriae
(C) cornua
(D) infundibulum

**30.** Acute renal failure (ARF) is characterised by:
A. Irreversible increase in glomerular filtration rate.
B. Frequent elimination of large quantities of urine.
C. Sudden worsening of renal function.
D. Elevated serum creatinine levels.

(A) A and B only
(B) A, B, C only
(C) A, B, C and D

(D) C and D only

**31.** Acetyl group of acetyl CoA contains how many carbon atoms?

(A) 4

(B) 1

(C) 2

(D) 3

**32.** Match the type of pollination given in Column-I with its pollinating agent from Column-II.
i. Ornithophily — a. Bat
ii. Entomophily — b. Wind
iii. Anemophily — c. Bird
iv. Chiropterphily — d. Insect

(A) i – b, ii – c, iii – d, iv – a

(B) i – c, ii – a, iii – d, iv – b

(C) i – d, ii – c, iii – b, iv – a

(D) i – c, ii – d, iii – b, iv – a

**33.** Match the diseases in Column-I with their symptoms in Column-II.
i. Jaundice — a. Associated with nauseatic feeling.
ii. Diarrhoea — b. Difficulty in defaecation.
iii. Vomiting — c. Yellowness of conjunctiva of eyes.
iv. Constipation — d. Blood in stool

(A) i – c, ii – d, iii – b, iv – a

(B) i – c, ii – d, iii – a, iv – b

(C) i – c, ii – a, iii – b, iv – d

(D) i – c, ii – b, iii – d, iv – a

**34.** In spermatogenesis, growth phase results in formation of _____.

(A) primary spermatocytes

(B) secondary spermatocytes

(C) spermatogonia

(D) spermatids

**35.** The volume of air occupying the dead space of respiratory system is _____ ml.

(A) 250

(B) 300

(C) 100

(D) 150

**36.** Given below are two statements:
Statement-I: The relationship between $HbO_2$ saturation and oxygen tension ($ppO_2$) is called oxygen-dissociation curve.
Statement-II: Oxygen dissociation curve shifts towards the right due to decrease in $ppCO_2$ and decrease in temperature.

(A) Statement-I is correct but Statement-II is incorrect.

(B) Statement-I is incorrect but Statement-II is correct.

(C) Both Statement-I and Statement-II are correct.

(D) Both Statement-I and Statement-II are incorrect.

**37.** Which of the following event leads to primary succession?

(A) Biotic communities have been destroyed.

(B) Newly formed pond or reservoir.

(C) Freshly harvested crop field.

(D) Freshly deforested area.

**38.** The absolute natality is _____ realised natality.

(A) seldom more than

(B) always less than

(C) same as

(D) always more than

**39.** Match the plants given in Column-I with their type of endosperm in Column-II.
i. Coconut — a. helobial
ii. Balsam — b. perisperm
iii. Asphodelus — c. nuclear
iv. Black pepper — d. cellular

(A) i – d, ii – c, iii – b, iv – a

(B) i – a, ii – b, iii – c, iv – d

(C) i – c, ii – d, iii – a, iv – b

(D) i – b, ii – v, iii – d, iv – a

**40.** Given below are two statements. Select the most appropriate answer from given options.
Statement-I: T-lymphocytes have 4 subtypes as helper, killer, memory and suppressor T-cells.
Statement-II: B-lymphocytes mature in thymus and are responsible for cell mediated immunity.

(A) Statement-I is correct but Statement-II is incorrect.
(B) Statement-I is incorrect but Statement-II is correct.
(C) Both Statement-I and Statement-II are correct.
(D) Both Statement-I and Statement-II are incorrect.

**41.** Which one of the following is NOT a natural reason for loss of biodiversity?

(A) Volcanic eruptions
(B) Forest fire
(C) Earthquake
(D) Human settlement

**42.** Match the restriction enzyme given in Column-I with their source given in Column-II.
i. Alu I — a. *Bacillus amyloliquefaciens H*
ii. Bam HI — b. *H. influenza Rd*
iii. Eco RI — c. *Arthobacter luteus*
iv. Hind II — d. *Escherichia coli Ry 13*

(A) i – a, ii – c, iii – d, iv – b
(B) i – c, ii – b, iii – d, iv – a
(C) i – c, ii – d, iii – a, iv – b
(D) i – c, ii – a, iii – d, iv – b

**43.** What will happen to the developing foetus if corpus luteum regresses in third week of pregnancy?

(A) Endometrium starts secreting progesterone and maintains the pregnancy.
(B) Corpus albicans will maintain the pregnancy.
(C) Placenta will secrete hCG and maintain pregnancy.
(D) Progesterone level depletes and foetus is aborted.

**44.** Which of the following statements are INCORRECT?
i. Glomerular capillaries are extremely thin walled.
ii. Diameter of afferent arteriole is greater than that of efferent arteriole.
iii. Glomerular filtrate is deproteinised plasma and is acidic in nature.
iv. PCT cells reabsorb low threshold substances like sulphates, nitrates actively against concentration gradient.

(A) i, ii and iii

(B) i and ii

(C) iii and iv

(D) i, iii and iv

**45.** Which one of the following acts as a pace setter of the human heart?

(A) AV Node

(B) SA Node

(C) Bundle of His

(D) Node of Ranvier

**46.** Which of the following blood corpuscles are least in number, in human beings?

(A) Lymphocytes

(B) Neutrophils

(C) Eosinophils

(D) Basophils

**47.** Formation of cystine stones in kidney is due to _____.

(A) bacterial infection by urea splitting bacteria

(B) genetic disorder

(C) consumption of high protein diet

(D) drinking very less water

**48.** Ti plasmids can transform cells of _____.

(A) animals

(B) virus

(C) bacteria

(D) plants

**49.** Given below are two statements with respect to prostate gland in males.
Statement-I: These are large paired glands, located underneath the urinary bladder.
Statement-II: Milky white, slightly acidic prostatic fluid is secreted into urethra.

(A) Both Statement-I and Statement-II are incorrect.

(B) Statement-I is incorrect but Statement-II is correct.

(C) Both Statement-I and Statement-II are correct.

(D) Statement-I is correct but Statement-II is incorrect.

**50.** Trees and shrubs have _____ in their bark for gaseous exchange.

(A) plasmodesmata

(B) lenticels

(C) stomata

(D) hydathodes

**51.** *Caenorhabditis elegans* is a _____.

(A) virus

(B) cyanobacterium

(C) fungus

(D) nematode

**52.** In human female, process of oogenesis is completed _____.

(A) during implantation

(B) before puberty

(C) with entry of sperm into ooplasm

(D) after blastulation

**53.** The term hormone was coined by _____.

(A) Thimann and Pincus

(B) F.W. Went

(C) Starling

(D) Carns and Addicott

**54.** Where can the recombinant protein relaxin be used?

(A) Atherosclerosis treatment

(B) During parturition

(C) Treatment of asthma

(D) Haemophilia A treatment

**55.** Given below are two statements with respect to gastrulation.
Statement-I: Root of amniotic cavity is lined by amniogenic cells, which divides to form chorion.
Statement-II: Chorion is an embryonic membrane that participates in development of the embryo.

(A) Both Statement-I and Statement-II are correct.

(B) Statement-I is correct but Statement-II is incorrect.

(C) Both Statement-I and Statement-II are incorrect.

(D) Statement-I is incorrect but Statement-II is correct.

**56.** Given below are two statements.
Statement-I: In root hair, outer layer of cell wall is composed of pectin.
Statement-II: In root hair, inner layer of cell wall is composed of chitin.

(A) Statement-I is correct but Statement-II is incorrect.

(B) Both Statement-I and Statement-II are incorrect.

(C) Both Statement-I and Statement-II are correct.

(D) Statement-I is incorrect but Statement-II is correct.

**57.** The cleaved DNA fragment having desired gene is called _____ DNA in rDNA technology.

(A) recombinant

(B) vehicle

(C) passenger

(D) chimeric

**58.** Nitrogenous waste urea is formed by the catabolism of amino acids in liver by _____.

(A) Calvin cycle

(B) Nitrogen cycle

(C) Ornithine cycle

(D) Kerbs cycle

**59.** Given below are two statements:
Statement-I: The relationship between $HbO_2$ saturation and oxygen tension ($ppO_2$) is called oxygen-dissociation curve.
Statement-II: Oxygen dissociation curve shifts towards the right due to decrease in $ppCO_2$ and decrease in temperature.

(A) Both Statement-I and Statement-II are correct.

(B) Both Statement-I and Statement-II are incorrect.

(C) Statement-I is correct but Statement-II is incorrect.

(D) Statement-I is incorrect but Statement-II is correct.

**60.** Select the correct match of disease and its symptom.

(A) Emphysema - bronchial inflammation

(B) Acute bronchitis – Shortness of breath and yellow mucus

(C) Laryngitis – Inflammation fibrosis

(D) Sinusitis – inflammation of larynx

**61.** Hydrogen acceptor in alcohol fermentation is _____.

(A) Acetaldehyde

(B) NADP

(C) Pyruvic acid

(D) PGA

**62.** In the $F_2$ generation of a Mendelian dihybrid cross, how many plants homozygous for both the traits are found?

(A) One

(B) Two

(C) Four

(D) Six

**63.** In ecological succession, an ecosystem is first occupied by _____.

(A) seral community

(B) climax community

(C) complex organisms

(D) pioneer species

**64.** Embryos develop directly from diploid cells of the nucellus in _____.

(A) *Citrus*

(B) *Cynodon*

(C) *Mirabilis*

(D) *Helianthus*

**65.** Which one of the following is the genetic material of bacteriophage $\phi$X174?

(A) ssRNA

(B) ssDNA

(C) dsRNA

(D) dsDNA

**66.** Protein digesting enzyme pepsin is secreted in _____ part of digestive system.

(A) stomach

(B) ileum

(C) duodenum

(D) esophagus

**67.** How many molecules of ATP are generated through ETS after complete oxidation of one glucose molecule?

(A) One

(B) Thirty four

(C) Ten

(D) Eight

**68.** During replication of DNA, the RNA primers are removed by **i** and replaced by DNA sequences with the help of **ii** in prokaryotes and **iii** in eukaryotes.

| | **i** | **ii** | **iii** |
|---|---|---|---|
| (A) | DNA polymerase-I | DNA polymerase | DNA polymerase- $\alpha$ |
| (B) | DNA polymerase | DNA polymerase- $\alpha$ | DNA polymerase-I |
| (C) | DNA polymerase | DNA polymerase-I | DNA polymerase- $\alpha$ |
| (D) | DNA polymerase-$\alpha$ | DNA polymerase | DNA polymerase-I |

**69.** Anti-helminthic drugs like Mebendazole, are given to treat _____.

(A) Typhoid

(B) Pneumonia

(C) Ascariasis

(D) Elephantiasis

**70.** Which of the following pair of animals are continuous breeders?

(A) Donkey and apes

(B) Goat and apes

(C) Sheep and human

(D) Apes and human

**71.** Given below are two statements about sewage.
Statement-I: The sediment in settling tank is called floc.
Statement-II: Sewage is first passed in grit chamber then it is screened.

(A) Both Statement-I and Statement-II are incorrect.

(B) Statement-I is correct but Statement-II is incorrect.

(C) Statement-I is incorrect but Statement-II is correct.

(D) Both Statement-I and Statement-II are correct.

**72.** First evidence for triplet genetic code was given by _____.

(A) Severo Ochoa

(B) Nirenberg and Matthaei

(C) Crick

(D) Dr. H.G. Khorana

**73.** Mendel studied _____ pure breeding traits of *Pisum sativum*.

(A) 6

(B) 7

(C) 2

(D) 4

**74.** Duffy, Kidd, Lewis are the names of _____.

(A) transgenic animals

(B) blood group systems

(C) antibody producing cells

(D) scientists who discovered different glycoproteins

**75.** Which one of the following acts as urinogenital organ in human males?

(A) Urethra

(B) Epididymis

(C) Ureter

(D) Urinary bladder

**76.** Match the category in Column-I with their description in Column-II.
i. Extinct — a. Decline in species population from 50% to 70% over last 10 years.
ii. Endangered — b. Species that are abundant.
iii. Vulnerable — c. Species of its last individual has died.
iv. Least concern — d. Decline in species population from 30% to 50% over last 10 years.

(A) i – b, ii – c, iii – d, iv – a

(B) i – c, ii – a, iii – d, iv – b

(C) i – a, ii – b, iii – c, iv – d

(D) i – c, ii – b, iii – a, iv – d

**77.** Select the INCORRECT pair with respect to mode of excretion.

(A) Penguin - Guanotelic

(B) Human beings - Ureotelic

(C) Land snails - Ureotelic

(D) Amphibian larva - Ammonotelic

**78.** What is the effect of increase in substrate concentration on the enzymatic activity?

(A) It decreases the rate of reaction.

(B) It has no effect on the rate of reaction.

(C) It increases the rate of reaction within a limited range only.

(D) It continuously increases the rate of reaction, irrespective of enzyme quantity.

**79.** Which one of the following is an example of cane sugar?

(A) Maltose

(B) Glucose

(C) Fructose

(D) Sucrose

**80.** Given below are two statements with respect to neurotransmitter, dopamine.
Statement-I: Degeneration of dopamine producing neuron causes Parkinson's disease.
Statement-II: Dopamine level increases due to cocaine.

(A) Both Statement-I and Statement-II are correct.

(B) Both Statement-I and Statement-II are incorrect.

(C) Statement-I is correct but Statement-II is incorrect.

(D) Statement-I is incorrect but Statement-II is correct.

**81.** Two molecules of acetyl CoA forms _____ after entering Krebs cycle.

(A) 3 $NADH_2$ + 2 $FADH_2$ + 4GTP

(B) 2 $NADH_2$ + 2 $FADH_2$ + 1GTP

(C) 3 $NADH_2$ + 1 $FADH_2$ + 3GTP

(D) 6 $NADH_2$ + 2 $FADH_2$ + 2GTP

**82.** Electrical synapse shows following features EXCEPT _____.

(A) Usually found in defense reflexes.

(B) Transmission across the gap is very fast.

(C) Gap between adjacent neurons is 20-30 nm.

(D) It is mechanical in nature.

**83.** Match the following contrivance from Column-I with its example in Column-II.
i. Protandry — a. *Calotropis*
ii. Prepotency — b. Tobacco
iii. Self sterility — c. Sunflower
iv. Herkogamy — d. Apple

(A) i – d, ii – c, iii – b, iv – a

(B) i – c, ii – d, iii – b, iv – a

(C) i – b, iii – a, iii – c, iv – d

(D) i – a, iii – b, iii – c, iv – d

**84.** The act of using unauthorized publications or reproduction of another person's work in pharmaceutical and agricultural research is called _____.

(A) Plagiarism

(B) Hacking

(C) Biopiracy

(D) Bioprospecting

**85.** Mineralocorticoids are secreted by _____.

(A) Zona fasciculata

(B) Zona reticularis

(C) Zona pellucida

(D) Zona glomerulosa

**86.** In lac operon, the switching on or switching off of the operator is achieved by _____.

(A) $\beta$ – galactosidase

(B) regulator protein

(C) transacetylase

(D) permease

**87.** In a diagram of L.S. of kidney, the correctly identified labelled parts A, B and C are:

(A) A: Renal vein, B: Renal pyramid, C: Medulla

(B) A: Renal artery, B: Renal column, C: Cortex

(C) A: Efferent arteriole, B: Renal papilla, C: Trigone

(D) A: Afferent arteriole, B: Renal fascia, C: Adipose tissue

**88.** Which one of the following vitamin can be synthesised in human?

(A) Vit. A

(B) Vit. D

(C) Vit. C

(D) Vit. K

**89.** The hormone responsible for increase in blood pressure and decrease in water content of urine is _____.

(A) FSH

(B) ACTH

(C) vasopressin

(D) oxytocin

**90.** Ethanol is produced by fermenting of malted cereals by _____.

(A) *Acetobacter acetii*

(B) *Aspergillus niger*

(C) *Saccharomyces cerevisiae*

(D) *Rhizopus arrhizus*

**91.** Which hormone in barley and wheat seeds promotes germination by synthesizing amylase enzyme?

(A) Ethylene

(B) Cytokinins

(C) Auxins

(D) Gibberellins

**92.** What will be the genotypes of the parents of a colorblind daughter and a colorblind son?

(A) Father – $X^CY$ and mother – $X^CX^C$

(B) Father – $X^CY$ and mother – $X^CX^c$

(C) Father – $X^cY$ and mother – $X^CX^c$

(D) Father – $X^cY$ and mother – $X^cX^c$

**93.** Given below are two statements.
Statement-I: Elimination of particular alleles from a population due to natural disasters is called genetic drift.
Statement-II: Sudden temporary heritable change in the gene is called point mutation.

(A) Statement-I is correct but Statement-II is incorrect.

(B) Both Statement-I and Statement-II are correct.

(C) Both Statement-I and Statement-II are incorrect.

(D) Statement-I is incorrect but Statement-II is correct.

**94.** Transforming principle in bacteria is DNA. This was first proved through experiments performed by _____.

(A) Frederick Griffith

(B) Hershey and Chase

(C) Avery, McCarty and MacLeod

(D) Meselson and Stahl

**95.** The parasite *Plasmodium vivax* causes _____.

(A) pneumonia

(B) dengue

(C) typhoid

(D) malaria

**96.** Cells in the wall of _____ are permeable to urea.

(A) medullary part of collecting duct

(B) distal convoluted tubule

(C) cortical part of collecting duct

(D) thick segment of Henle's loop

**97.** Match the ecological hierarchy given in Column-I with their explanation in Column-II.
i. organism — a. flora and fauna of a specific climatic zone.
ii. population — b. populations of different species of an area.
iii. community — c. organisms of same kind inhabiting an area.
iv. biome — d. basic unit of hierarchy.

(A) i – d, ii – c, iii – b, iv – a

(B) i – d, ii – c, iii – a, iv – b

(C) i – a, ii – c, iii – b, iv – d

(D) i – a, ii – b, iii – c, iv – d

**98.** The sub-order Prosimii includes _____.

(A) Lemurs and Tarsiers

(B) Squirrel monkeys and spider monkeys

(C) Baboons and Macaques

(D) Chimpanzee and Orangutan

**99.** Diseases present from birth are called _____.

(A) non-infectious diseases

(B) congenital diseases

(C) acquired diseases

(D) communicable diseases

**100.** Fertilization of gametocytes of *Plasmodium vivax* takes place in _____.

(A) gut of female *Anopheles* mosquito

(B) RBCs of human being

(C) salivary glands of female *Anopheles* mosquito

(D) liver of human being