



# GuruAanklan

**MHT-CET**  
**Test**

**MHT-CET EXAMINATION SET-A**  
**BIOLOGY**

**Marks : 100**  
**Duration : 1.1/2 Hrs**

The distribution of marks subjectwise in each part is as under for each correct response.

**Q. No.101 - 200 – BIOLOGY (+1, 0) (100 marks) – 100 questions**

Each question has 4 choices (A), (B), (C) and (D), out of which **ONLY ONE** is correct.

Candidates will be awarded **ONE** mark each for indicating **correct** response of each question & there is no negative marking.

### Useful Data

<b>Gas Constant</b>	<b>R</b>	= 8.314 J K <sup>-1</sup> mol <sup>-1</sup> = 0.0821 Lit atm K <sup>-1</sup> mol <sup>-1</sup> = 1.987 ≈ 2 Cal K <sup>-1</sup> mol <sup>-1</sup>	<b>1 Faraday</b>	= 96500 Coulomb
			<b>1 calorie</b>	= 4.2 Joule
			<b>1 amu</b>	= 1.66 × 10 <sup>-27</sup> kg
<b>Avogadro's Number</b>	<b>N<sub>a</sub></b>	= 6.023 × 10 <sup>23</sup>	<b>1 eV</b>	= 1.6 × 10 <sup>-19</sup> J
<b>Planck's constant</b>	<b>h</b>	= 6.625 × 10 <sup>-34</sup> J · s		
<b>Atomic No:</b>		= 6.625 × 10 <sup>-27</sup> erg · s		
<b>Atomic Masses:</b>		H = 1, D = 1, Li = 3, Na = 11, K = 19, Rb = 37, Cs = 55, F = 9, Ca = 20, He = 2, O = 8, Au = 79, Ni = 28, Zn = 30, Cu = 29, Cl = 17, Br = 35, Cr = 24, Mn = 25, Fe = 26, S = 16, P = 15, C = 6, N = 7, Ag = 47, He = 4, Mg = 24, C = 12, O = 16, N = 14, P = 31, Br = 80, Cu = 63.5, Fe = 56, Mn = 55, Pb = 207, Au = 197, Ag = 108, F = 19, H = 1, Cl = 35.5, Sn = 118.6, Na = 23, D = 2, Cr = 52, K = 39, Ca = 40, Li = 7, Be = 4, Al = 27, S = 32.1		

## **BIOLOGY**

### **[Single Answer Choice Type]**

***This Section contains 100 Single choice questions. Each question has 4 choices (A), (B), (C) and (D) out of which ONLY ONE is correct.***

- =====
1. Which trait is dominant in *Pisum sativum*?  
(A) White flowers      (B) Green seeds      (C) Yellow pods      (D) Inflated pods
  2. A pea plant with yellow and round seeds crossed with another pea plant having green and wrinkled seeds produced 51 yellow and round seeded plants and 49 yellow and wrinkled seeded plants. The genotype of the plant with yellow and round seeds must be  
(A) YYRr      (B) YyRr      (C) YyRR      (D) YYRR
  3. The genes present on same locus but show two different phenotypes are  
(A) polygenes      (B) codominant genes      (C) pleiotropic genes      (D) multiple alleles
  4. The genotype of the mullato offspring will  
(A) AABbcc      (B) AaBbCc      (C) aabbcc      (D) aabbCc
  5. If there are two genes with additive effect, the phenotypic ratio will be  
(A) 1 : 6 : 15 : 20 : 15 : 6 : 1      (B) 1 : 1 : 1 : 1  
(C) 9 : 3 : 3 : 1      (D) 1 : 4 : 6 : 4 : 1
  6. When a single gene produces two effects and one of them is lethal, then the ratio is  
(A) 1 : 1 : 1 : 1      (B) 1 : 2 : 1      (C) 2 : 1      (D) 1 : 1
  7. In the F<sub>2</sub> generation, of a dihybrid cross, the genotypes are  
(A) nine      (B) four      (C) eight      (D) six
  8. The genotypic and the phenotypic ratio is the same in  
(A) pleiotropy      (B) polygenes      (C) incomplete dominance      (D) monohybrid cross
  9. The 21st amino acid selenocysteine required for protein synthesis is coded by  
(A) AUG      (B) UGA      (C) GUG      (D) UUU
  10. The entry of lactose into the cell is regulated by  
(A) Kornberg enzyme      (B) permease      (C) transacetylase      (D)  $\beta$  galactosidase
  11. The unwinding of the DNA strands during replication is done by the enzyme  
(A) SSBP      (B) Primase      (C) Helicase      (D) Topoisomerase

12. mRNA is synthesised on the  
 (A) coding strand (B) sense strand (C) lagging strand (D) antisense strand
13. The two successive nucleotides are linked by \_\_\_\_\_ linkages.  
 (A) phosphodiester (B) glycosidic (C) peptide (D) hydrogen
14. In lac operon, the expression of the  $\beta$  galactosidase gene is suppressed by  
 (A) lactose (B) allolactose (C) operator (D) repressor
15. The thermostable DNA polymerase can withstand temperature upto  
 (A)  $110^{\circ}$  (B)  $94^{\circ}$  (C)  $54^{\circ}$  (D)  $134^{\circ}$
16. The restriction enzymes preferred in genetic engineering experiments are  
 (A) *type II* (B) *type III* (C) *type I* (D) *type IV*
17. Golden rice is genetically engineered rice with greater  
 (A) vitamin A (B) vitamin C (C) vitamin B (D) vitamin D
18. The variety of rapeseed mustard which is resistant to aphids is  
 (A) Pusa A - 4 (B) Pusa Sawani (C) Pusa Gaurav (D) Pusa Sadabahar
19. The explants in tissue culture can be sterilised with  
 (A) 10% sodium hypochloride solution  
 (B) 70% ethyl alcohol  
 (C) 1% hydrogen peroxide  
 (D) 20% mercuric chloride solution
20. The source of the antibiotic chloromycetin is  
 (A) *Streptomyces griseus* (B) *Streptomyces erythreus*  
 (C) *Penicillium chrysogenum* (D) *Streptomyces venezuelae*.
21. How many ATP are required to regenerate RUBP?  
 (A) 18 (B) 30 (C) 6 (D) 12
22. The reducing power for the reduction of  $\text{CO}_2$  to glucose is  
 (A)  $\text{NADH}_2$  (B)  $\text{NADPH}_2$  (C)  $\text{H}_2\text{O}$  (D) ATP
23. During the cyclic electron transport, cytochrome - f transfers electron to  
 (A) ferredoxin (B) plastoquinone (C)  $\text{P}_{700}$  (D) plastocyanin
24. The LHC is composed of about \_\_\_\_\_ carotenoid molecules.  
 (A) 200 (B) 230 (C) 50 (D) 250

25. Photolysis of water occurs in  
 (A) thylakoid lumen (B) stroma (C) stroma lamellae (D) peristromium
26. The major xanthophyll in plants is  
 (A) fucoxanthin (B) lutein (C) violaxanthin (D) lycopene
27. In sugarcane plant, the fixation of atmospheric  $\text{CO}_2$  occurs in  
 (A) bundle sheath (B) mesophyll (C) epidermis (D) motor cells
28. The first stable compound in CAM pathway is  
 (A) PGA (B) PEPA (C) OAA (D) RUBP
29. The co-factors required for the enzyme pyruvate decarboxylase is/are  
 (A) TPP &  $\text{Mn}^{++}$  (B)  $\text{Mn}^{++}$  &  $\text{Mg}^{++}$  (C) TPP &  $\text{Zn}^{++}$  (D) TPP & Lipoic acid
30. When  $\text{NADH}_2$  is involved in ETS, the first ATP is synthesised between  
 (A)  $\text{NADH}_2$  & FMN (B) Cyt.b & Cyt.c<sub>1</sub> (C) Cyt. c & Cyt.a<sub>3</sub> (D) Cyt.a & Cyt.a<sub>3</sub>
31. Malate is formed from fumarate by  
 (A) dehydration (B) hydration (C) dehydrogenation (D) decarboxylation
32. At the end of the preparatory phase of glycolysis, \_\_\_\_\_ is formed  
 (A) DHAP (B) PGA (C) 1,3 -biPGA (D) PGAL
33. The correct sequence of the cytochromes in ETS is  
 (A) c, c<sub>1</sub>, b, a, a<sub>3</sub> (B) b,c<sub>1</sub>,c,a,a<sub>3</sub> (C) a,b,c,c<sub>1</sub>,a<sub>3</sub> (D) b,c,c<sub>1</sub>,a,a<sub>3</sub>
34. The enzyme which catalyses the conversion of PEPA to pyruvate is  
 (A) pyruvate kinase (B) enolase (C) aldolase (D) hexokinase
35. The stalked  $\text{F}_1$  particles are present on/in  
 (A) outer membrane (B) matrix  
 (C) cristae (D) perimitochondrialspace
36. The total number of ATP formed in cytoplasmic respiration is  
 (A) 8 (B) 4 (C) 2 (D) 6
37. The total number of nuclei of the embryo sac involved in double fertilisation is  
 (A) 5 (B) 4 (C) 2 (D) 3
38. Leaf cuttings are used in the vegetative propogation of  
 (A) mango (B) guava (C) kalanchoe (D) jasmine

39. Vegetative propagation by runner is done in  
(A) oxalis (B) begonia (C) tamarind (D) sedum
40. The characteristic thickening on the cell walls of endothecium is made of  
(A) cellulose (B) sporopollenin (C) callose (D) suberin
41. The double layered wall of the pollen grain is  
(A) periderm (B) exine (C) sporoderm (D) tapetum
42. The megasporangium is  
(A) nucellus (B) integument (C) chalaza (D) hilum
43. The filiform apparatus is a part of  
(A) secondary nucleus (B) antipodal cells (C) synergids (D) polar nuclei
44. Cross pollination between similar species is  
(A) geitonogamy (B) mesogamy (C) allogamy (D) xenogamy
45. Mark the odd one.  
(A) Zostera (B) Ceratophyllum (C) Vallisneria (D) Hydrilla
46. The dicot embryo develops from the  
(A) terminal cell (B) basal cell (C) suspensor cell (D) hypophysis
47. The main green house gas is  
(A) CFC (B) CO<sub>2</sub> (C) CH<sub>4</sub> (D) O<sub>3</sub>
48. In establishing a new ecosystem on rocks, the pioneers are  
(A) phytoplanktons (B) lichens (C) mosses (D) ferns
49. Guano deposits are rich in  
(A) magnesium (B) sulphur (C) calcium (D) phosphorus
50. The rate of energy storage at the level of consumers is \_\_\_\_\_ productivity.  
(A) primary (B) secondary (C) gross (D) net
51. XXY chromosome complement is found in:  
(A) Down's syndrome (B) Turner's syndrome  
(C) Klinefelter's syndrome (D) Edward's syndrome
52. \_\_\_\_\_ Chromosome appears V shaped during anaphase:  
(A) Metacentric (B) Acrocentric (C) Telocentric (D) Sub-metacentric

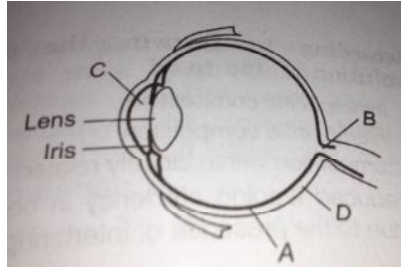
53. Seminiferous tubules are lined by :
- (A) Specialized squamous epithelial cells                      (B) Specialized cuboidal epithelial cells  
 (C) Specialized ciliated epithelial cells                      (D) Specialized columnar epithelial cells
54. During second cleavage:
- (A) division is vertical at right angles to the first division  
 (B) division is horizontal at right angles to the first division  
 (C) two blastomeres divide resulting into four celled stage  
 (D) both (A) & (C)
55. In the case of peppered moth (*Biston Betularis*), the black coloured form became dominant over the light coloured form in England during industrial revolution. This is an example of
- (A) Inheritance of darker colour character acquired due to the darker environment  
 (B) Appearance of darker coloured individuals due to very poor sunlight  
 (C) Natural selection whereby the darker form camouflaged well with black tree trunks  
 (D) None of the above
56. In Urey and Miller's experiment of chemical evolution, the mixture of \_\_\_ : \_\_\_ : \_\_\_ was in ratio of 1:2:2
- (A) Ammonia, methane, hydrogen                      (B) methane, ammonia, hydrogen  
 (C) hydrogen, ammonia, methane                      (D) above ratio does not hold true.
57. From unripe opium fruit, the opium is extracted. From it, which of the following groups of narcotic drugs are prepared:
- (A) hashish, morphine, heroin                      (B) smack, morphine, heroin  
 (C) charas, ganja, belladonna                      (D) cocaine, charas, barbiturates
58. In a standard ECG, which one of the following alphabets is the correct representation of the respective activity of the human heart?
- (A) P - depolarisation of the atria                      (B) R - repolarisation of ventricles  
 (C) S - systole of atria                      (D) T - diastole of atria
59. ARC is a condition which leads to fever, swollen lymph nodes, night sweats, loss of weight, etc. is associated with following disease:
- (A) Cancer                      (B) AIDS                      (C) Filariasis                      (D) Alcoholism
60. A health disorder that results from the deficiency of thyroxine in adults and characterised by low metabolic rate, increase in body weight and tendency to retain water in tissues is:
- (A) Exophthalmic goitre    (B) Myxoedema                      (C) Hyperthyroidism                      (D) Cretinism

61. Which of the following is a pair of viral diseases?  
(A) Dermatophytosis & AIDS (B) Dermatophytosis and Common cold  
(C) Amoebiasis and common cold (D) Common cold and AIDS
62. The letter T in the T-lymphocytes refers to:  
(A) Thyroid (B) Thymus (C) Thalamus (D) Tonsils
63. A small boy was playing on the street with his friends, when a stray dog came and bit him badly. He was immediately rushed to the hospital and injected with the vaccine. the vaccine given to him to provide him with immunity is an example of  
(A) Natural acquired active immunity (B) Artificial acquired active immunity  
(C) Natural acquired passive immunity (D) Artificial acquired passive immunity.
64. Eustachian tube connects:  
(A) Pharynx with middle ear (B) Pharynx with internal ear  
(C) External ear with pharynx (D) Middle ear with external ear
65. Morula reaches the uterus about \_\_\_\_ days after fertilization:  
(A) 1 - 3 (B) 8 - 10 (C) 4 - 6 (D) 12 - 15
66. Acquired immunodeficiency syndrome is:  
(A) Reduction in the number of killer T cells (B) Reduction in the number of helper T cells  
(C) Reduction in the number of suppressor T cells (D) Reduction in the number of memory T cells
67. Brugia timori, is found in:  
(A) Lymphatic system (B) Subcutaneous region  
(C) Serous cavity of the body (D) Ovaries
68. The practice in which superior male and superior female of the same breed, but having no common ancestors on either side of mating patterns upto 4 - 6 generations, is known as:  
(A) Out breeding (B) Out crossing  
(C) Cross breeding (D) Interspecific hybridisation
69. Under normal condition, the size of female uterus is:  
(A) 5cm long x 8 cms wide x 2 cms thick (B) 8cm long x 5 cms wide x 2 cms thick  
(C) 5cm long x 2 cms wide x 8 cms thick (D) 8cm long x 2 cms wide x 2 cms thick
70. Study of interaction of antigen and antibody in blood is  
(A) Haematology (B) Serology (C) Cytology (D) Craniology

71. Poultry animal - Leghorn belongs to \_\_\_\_ breed:  
(A) American (B) Indian (C) Asian (D) Mediterranean
72. Find out the mismatch :  
(A) Helper T cells - produce lymphokines (B) Killer T cells - produce perforins  
(C) Suppressor T cells - produce antibodies (D) Memory T cells - retain the sensitisation for future
73. Which hormone is secreted in a woman if pregnancy has occurred:  
(A) Oestrogen (B) Follicle stimulating hormone  
(C) Chorionic gonadotropin (D) ADH
74. Waste products removed from by the process of ornithine cycle are:  
(A) Urea (B) Ammonia (C) Carbon dioxide (D) Both B & C
75. Diethylcarbamazine is effective in the treatment of:  
(A) Typhoid (B) AIDS (C) Filariasis (D) Ascariasis
76. Following are the group of animals showing ureotelism:  
(A) lizards, turtles, mammals, spiders  
(B) bony fishes, turtles, mammals, tadpole larva of frog  
(C) marine fishes, turtles, mammals, frog  
(D) marine fishes, turtles, mammals, scorpion
77. Which of the following are located in tunica media of human blood vessels:  
(A) Yellow fibres and smooth muscles (B) Collagen fibres and smooth muscles  
(C) Yellow fibres and striated muscles (D) Squamous epithelium and striated muscles
78. In terms of descending order of percentage proportion of leucocytes in human blood which one is correct:  
(A) Neutrophils → basophils → Lymphocytes → Acidophils → monocytes  
(B) Neutrophils → lymphocytes → monocytes → acidophils → basophils  
(C) Neutrophils → basophils → acidophils → basophils → monocytes  
(D) Neutrophils → basophils → Lymphocytes → monocytes → basophils



79.



parts A, B, C & D of the human eye are shown in the diagram. Select the option, which gives the correct identification along with the functions/ characteristics:

- (A) A - Retina - contains photoreceptors rods and cones
- (B) B - blind spots - contains only rods
- (C) C - aqueous humour - watery fluid - does not allow the rays of light to pass through it to lens
- (D) D - optic nerve - anteriorly forms the cornea of the eye.

80. Lac is a resinous substance produced by the \_\_\_A\_\_\_ glands of the female insect - \_\_\_\_B\_\_\_\_:

- (A) A - dermal, B - tacchardia lacca
- (B) A - salivary, B - tacchardia lacca
- (C) A - dermal, B - abies mellifera
- (D) A - salivary, B - abies mellifera

81. What is Fovea Centralis:

- (A) It is a region of choroid with only cone cells
- (B) It is a region of retina with only rod cells
- (C) It is a region of retina without any sensory cells
- (D) It is a region of retina with only cone cells

82. Where do sperms get physiologically matured?

- (A) In epididymes
- (B) In seminal vesicles
- (C) Vasa efferentia
- (D) Seminiferous tubules

83. At what stage of the development, ovum is released from the ovary of human female:

- (A) Primary oocyte
- (B) Secondary oocyte
- (C) Oogonium
- (D) Ootid

84. Spot the wrong pair:

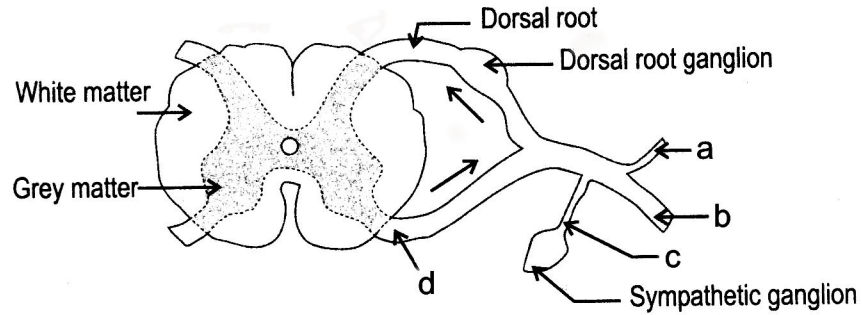
- (A) Hypothalamus - FSH
- (B) Corpus Luteum - Progesterone
- (C) Acrosome - Hyaluronidase
- (D) Interstitial cells - Testosterone

85. Which of the following is not correct for the effect of parathormone:

- (A) It encourages the activity of osteoclasts
- (B) It lowers blood calcium level
- (C) In its absence body shivers due to constant muscle contraction
- (D) It stimulates absorption of calcium by intestinal tract

86. Conversion of fibrinogen to fibrin is catalyzed by:  
 (A) Prothrombin (B) Thromboplastin (C) Thrombin (D) Thrombokinase
87. Following is function of lacteals :  
 (A) Digestion of proteins & fats in alimentary canal  
 (B) Absorption of proteins & fats from alimentary canal  
 (C) Absorption of fats from alimentary canal  
 (D) Absorption of carbohydrates from alimentary canal
88. In which part of the nephron the absorption of filtrate is maximum:  
 (A) Proximal convoluted tubule (B) Distal convoluted tubule  
 (C) Glomerulus (D) Henle's loop
89. In humans the right atrioventricular aperture of the heart is guarded by:  
 (A) Monocuspid valve (B) Bicuspid valve (C) Tricuspid valve (D) Tetracuspid valve
90. Humoral immunity is due to:  
 (A) B- Lymphocytes (B) T- Lymphocytes (C) Monocytes (D) Neutrophils.
91. Haemophilia or bleeder's disease is:  
 (A) Hereditary and X linked (B) Hereditary and Y linked  
 (C) Caused by deficiency of calcium (D) none of the above.
92. Joseph has hypertrichosis of pinna. What is the chance that his grandson will inherit the trait from him:  
 (A) 100% (B) 75% (C) 50% (D) 25%
93. \_\_\_\_ is/are a domestic species among honey bees:  
 (A) Apis florea (B) Apis mellifera  
 (C) Apis indica (D) Apis mellifera and Apis indica
94. \_\_\_\_ are the parts of artificial bee hive, except:  
 (A) Brood chamber (B) Super chamber (C) Honey chamber (D) Sub chamber
95. Which of the following is used as a drug for sleeping pills:  
 (A) Bhang (B) Heroin (C) Cocaine (D) Barbiturates
96. Cirrhosis of liver is caused by taking:  
 (A) Bhang (B) Cocaine (C) Alcohol (D) Opium
97. Columnae Carnae are found in:  
 (A) Ventricles of brain (B) Ventricles of heart (C) Joints of leg (D) Atria of heart

98.



Choose the correct option

- | a                   | b               | c                 | d                 |
|---------------------|-----------------|-------------------|-------------------|
| (A) Ramus dorsalis  | Ramus Ventralis | Ramus Communicans | Ventral root      |
| (B) Ramus dorsalis  | Ramus Ventralis | ventral root      | ramus communicans |
| (C) Ramus Ventralis | Ramus Dorsalis  | Ramus Communicans | Ventral root      |
| (D) Ramus Ventralis | Ramus Dorsalis  | ventral root      | ramus communicans |

99. The two lobes of thyroid gland are connected by a narrow isthmus that is present between \_\_\_\_\_ tracheal cartilage:

- (A) 1<sup>st</sup> and 3<sup>rd</sup>                      (B) 2<sup>nd</sup> and 4<sup>th</sup>                      (C) 5<sup>th</sup> and 8<sup>th</sup>                      (D) 10<sup>th</sup> and 12<sup>th</sup>.

100. Guanine is excreted by \_\_\_\_\_:

- (A) Penguin                      (B) Cockroach                      (C) Bird                      (D) Insect