Studentpad

MHT-CET-XI BIOLOGY(FULL PORTION) 2022-23

Time : 180 Min	Bio : Full Portion Paper	Marks : 100

Hints and Solutions

01) Ans: **C)** Stratified columnar epithelium

02) Ans: **C)** Has two chromatids and one centromere connected to both the poles by chromosomal fibres.

03) Ans: **A)** cell division

04) Ans: **C)** Mitochondrion

05) Ans: **D)** i - Darrhoea, ii - Constipation
Sol: Diarrhoea is a diseased conditions in which a person passes out watery stools frequently. It reduces the absorption of food while constipation is infrequent elimination of dry stool. It is due to decreased peristalsis in colon.

06) Ans: **D)** dark reaction

07) Ans: **C)** reduction reaction

08) Ans: **C)** Metanephric

09) Ans: **D)** each of the above three

10) Ans: **A)** P-700

11) Ans: **C)** Embden, Meyerhof and Parnas

12) Ans: **D)** A correct B incorrect

13) Ans: **B)** 0.34 nm

14) Ans: **C)** Aldosterone

15) Ans: **B)** fructose and some amino acids

16) Ans: **A)** Krebs cycle
Sol: 6 $NADH_2$ and 2 $FADH_2$ molecules are formed during Krebs cycle. When $NADH_2$ and $FADH_2$ enters respiratory chain, they produce 3 ATPs and 2 ATPs respectively.
$\therefore$ 6 $NADH_2 = 6 \times 3 = 18$ ATPs and
2 $FADH_2 = 2 \times 2 = 4$ ATPs.
Total ATPs produced = 18+4 = 22

17) Ans: **A)** ATP only
Sol: Cyclic photophosphorylation involves only ATP formation takes place. The ATP molecules are generated when the electron is transported from ferredoxin to cytochrome b_6 and from cytochrome b_6 to cytochrome f

18) Ans: **D)** Equisetum

19) Ans: **C)** Connective tissue

20) Ans: **D)** All the above

21) Ans: **B)** Gymnosperms

22) Ans: **B)** ovary and fruit

23) Ans: **A)** neural arches

24) Ans: **B)** sheep-Snail

25) Ans: **B)** Nucleus only

26) Ans: **D)** monital lizard or goys

27) Ans: **C)** Juxta Glomerular Apparatus

28) Ans: **B)** two divisions of nucleus and one division of chromosomes

29) Ans: **B)** increased ADH secretion

30) Ans: **A)** Streptococcus sps.

31) Ans: **A)** carbonic
Sol: Carbonic acid

32) Ans: **D)** acromion and coracoid tubercles

33) Ans: **B)** Pancreatic juice
Sol: The pancreatic lipase present in the pancreatic juice and the intestinal lipase present in the intestinal juice hydrolyse the fat molecules into triglycerides, diglycerides, monoglycerides, and ultimately into glycerol.

34) Ans: **D)** A, B, C, D, E correct

35) Ans: **A)** natural
Sol: Natural system

36) Ans: **D)** They are made up of many types of cells
Sol: The paernchyma, collenchyma, sclerenchyma are simple tissue as they are made up of one type of cells while Xylem and phloem are called as complex tissue they are made up of many types of cells. Xylem is called as dead tissue as most of elements are dead while pholem is known as living tissue because most of the elements are living.

37) Ans: **D)** Z-DNA is a right handed DNA

38) Ans: **C)** protein

39) Ans: **B)** Several chordate characters are lost in the at adult stage

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40) Ans: **B)** stroma lamellae
Sol: Grana are connected with the help of tubular connections called stroma lamellae or fret

41) Ans: **C)** Male reproductive system
Sol: The phallic organs are related to male reproductive system of cockroach also called conglobate. This organ is present beneath the utricular gland in the 6th segment. It communicates with exterior by a pore close to gonophore.

42) Ans: **A)** α – glucose
Sol: α – glucose.

43) Ans: **B)** Marginal

44) Ans: **C)** Schizocoel

45) Ans: **D)** oxidative phosphorylation

46) Ans: **D)** alcohol, lactic acid or similar compounds

47) Ans: **B)** inhibits spindle formation

48) Ans: **C)** Quiescent centre

49) Ans: **A)** Blackman's reaction

50) Ans: **C)** longer and heavier

51) Ans: **B)** Abnormal fluid level increase

52) Ans: **A)** Three pairs thoracic and six pairs abdominal
Sol: The total number of ganglia in ventral nerve cord of cockroach is nine pairs, i.e. three pairs thoracic and six pairs abdominal.

53) Ans: **B)** A-(iii), B-(iv), C-(ii), D-(i)
Sol: Botanical gardens are sufficiently large sized tracts where plants of different types and areas are grown for scientific and educational purposes. Zoological parks are the places where wild animals are kept in protected environments under human care and which enable us to learn about their food habits and behavior. Museums have collections of preserved plant and animal specimens for study and reference. Specimens are preserved in the containers jars in preservative solutions. Plant and animal specimens may also be preserved as dry specimens. Insects are preserved in insect boxes after collecting, killing and pinning. Larger animals like birds and mammals are usually stuffed and preserved. Museums often have collections of skeletons of animals
A herbarium is a collection of plants, which have been dried, pressed, mounted on herbarium sheets, identified and classified according to approved system of classification.

54) Ans: **B)** tyloses
Sol: The ballon like-out growths formed by the protrusions of Xylem parenchyma into the vessels of the xylem are known as -Tyloses. Tyloses obstruct the transportation of water and salts. Tyloses check the spreading of the pathogenic fungi and hence are useful to the plant. They are initially thin walled and later get lignified.

55) Ans: **D)** Embryophytes.

56) Ans: **A)** Metaphase

57) Ans: **D)** Both A and B

58) Ans: **B)** haploid

59) Ans: **D)** Renin

60) Ans: **A)** DNA and no histones

61) Ans: **D)** Sporozoa

62) Ans: **B)** monera

63) Ans: **B)** Biological museum

64) Ans: **A)** chromatid

65) Ans: **B)** merocrine

66) Ans: **B)** phosphate
Sol: Energy released during respiration is in form of ATP. In ATP, energy is stored in the form of high energy phosphate bond. When high energy phosphate bond is broken, large amount of energy is released.

67) Ans: **A)** Chitinous exoskeleton sclerite

68) Ans: **D)** all of these.

69) Ans: **C)** vertebrate nerve fibre

70) Ans: **B)** achenes

71) Ans: **A)** Silk and wool

72) Ans: **C)** stop contraction

73) Ans: **B)** A variety of protozoans and leucocytes

74) Ans: **A)** 20 only

75) Ans: **B)** simple branched saccular

76) Ans: **C)** RuBP

77) Ans: **A)** proteins

78) Ans: **B)** A-iii, B-v,C-ii, D-i

79) Ans: **C)** Intestine
Sol: Crypts of Liberkuhn are the intestinal glands which secrete digestive enzymes and mucus.

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80) Ans: **D)** all of these

81) Ans: **B)** More length increase food digestion and absorption

82) Ans: **D)** Calcareous or siliceous spicules, or siliceous spicules and spongin fibres or only spongin fibres

83) Ans: **D)** Coelenterates

84) Ans: **A)** Archaebacteria

85) Ans: **A)** grass leaf

86) Ans: **C)** Herbaria

87) Ans: **B)** Tepals

88) Ans: **A)** Fibres

89) Ans: **C)** 4
Sol: 2ATPs are formed in conversion of 1, 3-diPGA $\rightarrow$ 3PGA and further 2ATP are formed during 2PEPA $\rightarrow$ pyruvic acid

90) Ans: **B)** exine and intine

91) Ans: **A)** Chylomicron

92) Ans: **C)** Anaphase I-Homologous-chromosomes are separated

93) Ans: **D)** a highly modified reproductive shoot

94) Ans: **C)** cuticle

95) Ans: **C)** Troponin - Fabrous protein

96) Ans: **A)** Xiphoid process

97) Ans: **B)** perimitochondrial space
Sol: Krebs cycle occurs in the mitochondrial matrix. Cristae and F_1 particles are the site of ETS

98) Ans: **B)** AB both are correct

99) Ans: **C)** Is broken down by glucagon

100) Ans: **D)** rhizines

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