

PMT - 2000

Paper-1

Zoology

- 1. The expression of genes for the production of milk in females only is :
 - 1) sex-linked trait
 - 2) Y-linked trait
 - 3) sex limited trait
 - 4) sex influenced trait



- 2. Podocytes are the cells present in:
 - 1) neck of nephron
 - 2) wall of glomerular capillaries
 - 3) outer wall of Bowman's capsule
 - 4) inner wall of Bowman's capsule
- 3. In malarial parasite, which of the following is released in blood to cause chills fever?
 - 1) Schuffner's dot
 - 2) Haemozoin
 - 3) Hematin
 - 4) Hematocrin
- 4. LH and FSH are collectively called:
 - 1) oxytocin
 - 2) lutettrophic
 - 3) somatotrophins
 - 4) gonadotrophins
- 5. Which of the following is secreted by mast cells?
 - 1) Serotonin
 - 2) Heparin
 - 3) Histamine
 - 4) All of these
- 6. In Ascaris, the coelom is:
 - 1) schizocoelom
 - 2) true coelom
 - 3) pseudocoelom

4) haemocoelom



- 7. In earthworm, neurons are:
 - 1) sensory only
 - 2) motor only
 - 3) associated only
 - 4) all of these
- 8. In human zygote, the male sex is determined by :
 - 1) whether mother gets good nutrition
 - 2) whether father is stronger than mother
 - 3) strength of male chromosome
 - 4) required composition of chromosomes
- 9. In which of the following animals, respiration occurs without any respiratory organ?
 - 1) Fish
 - 2) Frog
 - 3) Cockroach
 - 4) Earthworm
- 10. In Pheretima septa are absent between which segments?
 - 1) 3/4 and 9/10
 - 2) 4/5 and 8/9
 - 3) 5/6 and 7/8
 - 4) 7/8 and 6/7
- 11. In Mollusca, eye is present over a stalk, called:
 - 1) ostracum
 - 2) operculum
 - 3) osphradium
 - 4) ommatophores
- 12. The trisomy for 21st chromosome is called:
 - 1) Down's syndrome
 - 2) Turner's syndrome
 - 3) Klinefelter's syndrome
 - 4) Sickle cell anaemia
- 13. Who is the 'Father of Endocrinology'?
 - 1) Whittaker
 - 2) Einthoven
 - 3) Pasteur



4) T. Addison



- 14. The putrefying bacteria are present in:
 - 1) appendix
 - 2) intestine
 - 3) stomach
 - 4) colon
- 15. Lymphoid tissue is found in:
 - 1) thymus
 - 2) tonsils
 - 3) lymph nodes
 - 4) all of these



- 16. The oxygen dissociation curve is :
 - 1) sigmoid
 - 2) slope
 - 3) parabola
 - 4) straight line
- 17. In rabbit end of a long bone is connected to another by :
 - 1) tendon
 - 2) ligaments
 - 3) muscle
 - 4) cartilage
- 18. Animals having a built-in thermostat to maintain constant body temperature are known as :
 - 1) biothermic
 - 2) poikilothermic
 - 3) oligothermic
 - 4) homeothermic
- 19. Mammalian thymus is mainly concerned with:
 - 1) regulation of body temperature
 - 2) regulation of body growth
 - 3) immunological functions
 - 4) secretion of thyrotropin
- 20. Which of the following pair of organisms are uricatelic?
 - 1) Birds and insects
 - 2) Reptiles and mammals
 - 3) Bony fishes and lizards



- 4) Cartilaginous fishes and mammals
- 21. In frog's heart, there are cardiac muscles which consists of fibres called:
 - 1) Purkinje fibres
 - 2) myonemes
 - 3) telodendria
 - 4) columanae carnae
- 22. In Klinefelter's syndrome, the sex-chromosome complement is :
 - 1) XXY
- 2) XYY
- 3) XY
- 4) XX

- 23. Choose the correct combination:
 - 1) Annelida and Porifera-phyla
 - 2) Oligochaeta and Arthropoda-phyla
 - 3) Mollusca and Hydrozoa-classes
 - 4) Aves and Chordata-classes
- 24. The abiogenesis occurred about how many billion years ago?
 - 1) 1.2 billion
 - 2) 1.5 billion
 - 3) 2.5 billion
 - 4) 3.5 billion
- 25. In cockroach, larval characters and nymphal characters are maintained by:
 - 1) ecdysone
 - 2) parotid gland
 - 3) salivary glands
 - 4) juvenile hormone
- 26. Thigmotaxis is shown by:
 - 1) Paramecium
 - 2) Hydra
 - 3) Amoeba
 - 4) Ascaris
- 27. The intermediate host of Schistosoma is:
 - 1) snail
 - 2) mosquito
 - 3) house fly
 - 4) lion
- 28. In earthworm, female genital opening is present in the segment :



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2) 13

3) 14

4) 18

29. Choose the correct pair:

(a)	Apiculture	honey bee		
(b)	Sericulture	fish		
(c)	Pisciculture	silk worm		
(d)	Aquaculture	lac insect		

1) a

2) b

3) c

4) d

30. Turbellarians are free living:

- 1) nematodes
- 2) annelids
- 3) trematodes
- 4) flatworms

31. Rh factor is present in:

- 1) all vertebrates
- 2) all mammals
- 3) all reptiles
- 4) man and rhesus monkey only

32. Pacemaker is:

- 1) sinu-auricular node
- 2) atrio-ventricular node
- 3) sino-venticular node
- 4) ventriculo-atrial node

33. In coelentrates, characteristic larva is:

- 1) planula
- 2) rhabditiform
- 3) oncosphere
- 4) cysticercus

34. The islets of Langerhans are found in :

- 1) stomach
- 2) pancreas
- 3) liver
- 4) alimentary canal

35. Enterokinase is a:

- 1) bile juice
- 2) intestinal juice

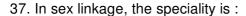




- 3) pancreatic enzyme
- 4) pancreatic hormone



- 1) near the advancing end
- 2) near the trailing end
- 3) at the middle of the body
- 4) anywhere inside the body



- 1) atavism
- 2) reversion
- 3) gene flow
- 4) criss-cross inheritance

38. During strenous exercise, which of the following changes occur?

- 1) Glucose is converted into glycogen
- 2) Glucose is converted into pyruvic acid
- 3) Starch is converted into glucose
- 4) Pyruvic acid is converted into lactic acid

39. Which of the following is the largest gland in an adult man?

- 1) Thymus
- 2) Liver
- 3) Thyroid
- 4) Pancreas

40. In rabbit, head of the epididymis present at the head of the testis is called:

- 1) vas deferens
- 2) cauda epididymis
- 3) gubernaculum
- 4) caput epididymis

41. Among the following, colonial insects are:

- 1) locusts
- 2) white ants
- 3) bed bugs
- 4) mosquitoes



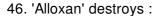
- 42. During emergency, which of the following hormones is important?
 - 1) Aldosterone
 - 2) Adrenaline



- 3) Thyroxine
- 4) Calcitonin
- 43. Which of the following is a transparent tissue?
 - 1) Tendon
 - 2) Hyaline cartilage
 - 3) Fibrous cartilage
 - 4) All of the above



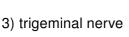
- 44. Vitamin-D is synthesised in skin by the action of sunlight on :
 - 1) cephano-cholesterol
 - 2) 7-hydroxy cholesterol
 - 3) cholesterol
 - 4) all of the above
- 45. Which of the following provides most evident proof of evolution?
 - 1) Fossils
 - 2) Embryos
 - 3) Morphology
 - 4) Vestigial organs



- 1) STH cells
- 2) β-cells of islets of Langerhans
- 3) cells of Sertoli
- 4) cells of Leydig



- 47. Which of the following cell type is capable of giving rise to other cell types in sponges?
 - 1) Pinacocytes
 - 2) Thesocytes
 - 3) Archaeocytes
 - 4) Collencytes
- 48. Analogous organs have a:
 - 1) common embryonic origin but perform different functions
 - 2) different embryonic origin and perform different functions
 - 3) common embryonic origin and perform similar functions
 - 4) different embryonic origin but perform similar functions
- 49. 5th cranial nerve of frog is called:
 - 1) optic nerve
 - 2) vagus nerve





- 4) opthalmic nerve
- 50. In Amoeba, the conversion of plasma gel into plasma sol at the trailing end and the conversion of plasma sol into plasma gel at the advancing end explains:
 - 1) Contraction theory
 - 2) attachment to substratum
 - 3) continuous viscosity changes
 - 4) theory of rolling movement

Botany

- 51. Lysosomes are formed by:
 - 1) endoplasmic reticulum
 - 2) mitochondrion
 - 3) Golgi membrane
 - 4) both (1) and (2)



- 52. Starch is stored in potato tuber because sugar is:
 - 1) synthesized in the leaf
 - 2) changed to starch in tuber
 - 3) transported from leaf to tuber
 - 4) produced in tuber
- 53. The leaves of Mimosa pudica drop down when touched, it is due to:
 - 1) photonasty
 - 2) seismonasty
 - 3) nyctinasty
 - 4) epinasty
- 54. Liquid food drinking is:
 - 1) imbibition
 - 2) pinocytosis
 - 3) phagocytosis
 - 4) none of the above



- 55. Induction of cell division and delay in senescence are due to:
 - 1) gibberellin
 - 2) auxin
 - 3) cytokinin
 - 4) ethylene
- 56. The secretory function of cell is mainly performed by :

- 1) lysosomes
- 2) spherosomes
- 3) peroxisomes
- 4) Golgi complex



- 57. The arrangement of megaspores in a tetrad in gymnosperm is :
 - 1) decussate
 - 2) tetrahedral
 - 3) linear
 - 4) isobilateral
- 58. A pome fruit is said to be false because :
 - 1) the pericarp is inconspicuous
 - 2) the endocarp is cartilaginous
 - 3) fruit is derived from superior ovary
 - 4) fruit is present in fleshy edible thalamus



- 59. Tortion of carpels is seen in the family:
 - 1) Cruciferae
 - 2) Liliaceae
 - 3) Solanaceae
 - 4) Asteraceae
- 60. The change occurring in organisms, which only reproduce vegetatively, is :
 - 1) gentetic
 - 2) morphological
 - 3) both genetic and morphological
 - 4) neither genetic nor morphological
- 61. According to fluid mosaic model, plasma membrane is composed of :
 - 1) phospholipids and integral proteins
 - 2) phospholipids and hemicellulose
 - 3) phospholipids and oligosaccharides
 - 4) phospholipids and extrinsic as well as intrinsic protein
- 62. Most of the hydrolytic enzymes of lysosomes function at :
 - 1) acidic pH
 - 2) basic pH
 - 3) neutral pH
 - 4) only pH
- 63. ATP synthesis occurs in :



63. ATP synthesis occurs in:

- 1) chloroplast
- 2) mitochondria
- 3) golgi apparatus
- 4) endoplasmic reticulum



- 64. The part of the spindle left after the chromosomes have moved to the poles is :
 - 1) centriole
 - 2) centrosome
 - 3) phragmoplast
 - 4) none of these
- 65. The first intermediate formed during photosynthesis is :
 - 1) fructose 1, 6 diphosphate
 - 2) ribulose 1, 5 diphosphate
 - 3) xylulose 5-phosphate
 - 4) phospholglyceraldehyde



66. Guttation is due to:

- 1) root pressure
- 2) osmosis
- 3) transpiration pull
- 4) cohesive force
- 67. Monerans devoid of cell wall are:
 - 1) actinomycetes
 - 2) cyanobacteria
 - 3) mycoplasma
 - 4) eubacteria



- 68. Insectivorous plants grow in soils which are denote in in .
 - 1) nitrogen
 - 2) carbohydrate
 - 3) vitamin-C
 - 4) calcium
- 69. In an upright pyramid of biomass, the herbivores occupy the position :
 - 1) 4

2) 3

3) 2

4) 1

- 70. In Funaria, calyptra is derived from :
 - 1) capsule
 - 2) columella

- 3) antheridium
- 4) archegonium

71. In a river, if its BOD percentage is high, the

- 1) river is polluted
- 2) river is not polluted
- 3) river is dry
- 4) none of the above



- 1) ribosomes
- 2) m-RNA
- 3) t-RNA
- 4) DNA

73. Meiosis involves:

- 1) two nuclear divisions and one chromosomal division
- 2) one nuclear division and one chromosomal division
- 3) one nuclear division and two chromosomal divisions
- 4) two nuclear divisions and two chromosomal divisions

74. Inulin is a:

- 1) lipid
- 2) protein
- 3) human insulin
- 4) polysaccharide



75. The sequence of 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
- 76. In Krebs cycle, a 6 C compound is formed by the combination of acetyl Co-A and :
 - 1) malic acid
 - 2) citric acid
 - 3) succinic acid
 - 4) oxaloacetic acid

77. Lomentum is a term used to describe a kind of :

1) fruit



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- 2) seed
- 3) inflorescence
- 4) outgrowth from seed



78. Histones are:

- 1) acidic proteins
- 2) basic proteins
- 3) mucoprotein
- 4) glycoproteins

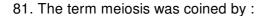


79. Aerosols reduce primary productivity by :

- 1) decreasing O₂ concentration in atmosphere
- 2) reducing photosynthesis
- 3) competing with CO₂
- 4) being toxic to chloroplasts

80. Genetically engineered bacteria is used for the production of :

- 1) thyroxin
- 2) human insulin
- 3) epinephrine
- 4) cortisol



- 1) Blackman
- 2) Flemming
- 3) Robertson
- 4) Farmer and Moore



- 82. Which ecosystem has the highest primary productivity?
 - 1) Pond
 - 2) Lake
 - 3) Desert
 - 4) Forest
- 83. In Pinus, male cone bears a large number of :
 - 1) ligules
 - 2) anthers
 - 3) microsporophylls
 - 4) megasporophylls
- 84. Amyloplasts are plastids that store:





- 1) proteins
- 2) fats
- 3) starch
- 4) glycogen



- 85. The positive evidence of aquatic ancestory or pryophytes is indicated by :
 - 1) ciliated sperms
 - 2) gametophytic body
 - 3) biflagellate gametes
 - 4) peristomial teeth



- 86. The name 'sarcode' was given to living
 - 1) Robert Brown
 - 2) Robert Hooke
 - 3) Dujardin
 - 4) Purkinje
- 87. Which of the following statements is true?
 - 1) All enzymes are proteins
 - 2) All proteins are enzymes
 - 3) All enzymes are not proteins
 - 4) All enzymes and hormones are proteins
- 88. Bacteria do not possess:
 - 1) capsule
 - 2) ribosomes
 - 3) mitochondria
 - 4) plasma membrane



89. Thylakoids occur inside:

- 1) nucleus
- 2) chloroplast
- 3) Golgi apparatus
- 4) mitochondria
- 90. The element present in thyroxin is obtained from :
 - 1) Laminaria
 - 2) Polysiphonia
 - 3) Porphyra
 - 4) Gelidium
- 91. Stages in proper sequence of prophase



- 1) zygotene, leptotene, pachytene, diakinesis and diplotene
- 2) leptotene, zygotene, pachytene, diplotene and diakinesis
- 3) leptotene, pachytene, zygotene, diakinesis and diplotene
- 4) diplotene, diakinesis, pachytene, zygotene and leptotene
- 92. Apomixis is a type of reproduction that results in the development of :
 - 1) embryo from nucellus
 - 2) embryo from endosperm
 - 3) new organism without fusion of gametes
 - 4) none of the above
- 93. Competition for food, light and space is most severe between two:
 - 1) closely related species growing in different niches
 - 2) distantly related species growing in different niches
 - 3) closely related species growing in same niches
 - 4) distantly related species growing in same niches
- 94. Monocarpellary ovary, diadelphous androecium and marginal placentation are characteristic of family:
 - 1) Cruciferae
 - 2) Compositae
 - 3) Liliaceae
 - 4) Papilionaceae



- 95. In plants, the induction of flowering by low temperature treatment, is called :
 - 1) pruning
 - 2) photoperiodism
 - 3) vernalization
 - 4) cryobiology
- 96. Late blight disease of potato is caused by :
 - 1) Ustilago
 - 2) Phytophthora
 - 3) Synchytrium
 - 4) Cercospora

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- 97. Which one is called amphibian plant?
 - 1) Polygonum
 - 2) Wolffia
 - 3) Casuarina
 - 4) None of these



98. Censer mechanism of seed dispersal is found in :

- 1) Papaveraceae
- 2) Liliaceae
- 3) Leguminosae
- 4) Rosaceae

99. The energy liberated during the conversion of ATP into ADP is:

- 1) 73000 cal/mol
- 2) 686000 cal/mol
- 3) 8000 cal/mol
- 4) 7300 cal/mol

100. Amitosis is:

- 1) division involving spindle formation
- 2) division involving formation of chromosome bridges
- 3) division in which chromosomes are unequally distributed
- 4) cleavage of nucleus without recognisable chromosome distribution



Answer Key

1) 3	2) 4	3) 2	4) 4	5) 4	6) 3	7) 4	8) 4	9) 4	10) 1
11) 4	12) 1	13) 4	14) 4	15) 4	16) 1	17) 2	18) 4	19) 3	20) 1
21) 1	22) 1	23) 1	24) 4	25) 4	26) 3	27) 1	28) 3	29) 1	30) 4
31) 4	32) 1	33) 1	34) 2	35) 2	36) 2	37) 4	38) 4	39) 2	40) 4
41) 2	42) 2	43) 2	44) 2	45) 1	46) 2	47) 3	48) 4	49) 3	50) 3
51) 4	52) 2	53) 2	54) 2	55) 3	56) 4	57) 3	58) 4	59) 3	60) 4
61) 4	62) 1	63) 2	64) 3	65) 4	66) 1	67) 3	68) 1	69) 3	70) 4
71) 1	72) 1	73) 1	74) 4	75) 4	76) 4	77) 1	78) 2	79) 2	80) 2
81) 4	82) 4	83) 3	84) 3	85) 1	86) 3	87) 1	88) 3	89) 2	90) 1
91) 2	92) 3	93) 3	94) 4	95) 3	96) 2	97) 1	98) 1	99) 4	100) 4