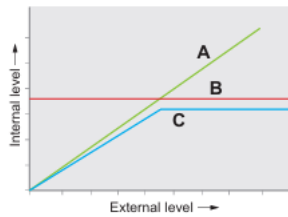


Grade 12 Bio-zoology Achievement test 1

1. In which type of parthenogenesis are only males produced? a) Arrhenotoky b) Thelytoky c) Amphitoky d) Both a and b
2. The mode of sexual reproduction in bacteria is by a) Formation of gametes b) Endospore formation c) Conjugation d) Zoospore formation
3. In which mode of reproduction variations are seen a) Asexual b) Parthenogenesis c) Sexual d) Both a and b
4. Assertion: In bee society, all the members are diploid except drones.
Reason: Drones are produced by parthenogenesis. a b c d
5. Assertion: Offsprings produced by asexual reproduction are genetically identical to the parent. Reason: Asexual reproduction involves only mitosis and no meiosis.
6. The mature sperms are stored in the a. Seminiferous tubules b. Vas deferens c. Epididymis d. Seminal vesicle
7. The male sex hormone testosterone is secreted from a. Sertoli cells b. Leydig cell c. Epididymis d. Prostate gland
8. The glandular accessory organ which produces the largest proportion of semen is a. Seminal vesicle b. Bulbourethral gland c. Prostate gland d. Mucous gland
9. The male homologue of the female clitoris is a. Scrotum b. Penis c. Urethra d. Testis
10. The site of embryo implantation is the a. Uterus b. Peritoneal cavity c. Vagina d. Fallopian tube
11. The foetal membrane that forms the basis of the umbilical cord is a. Allantois b. Amnion c. Chorion d. Yolk sac
12. The most important hormone in initiating and maintaining lactation after birth is a. Oestrogen b. FSH c. Prolactin d. Oxytocin
13. Mammalian egg is a. Mesolecithal and non cleidoic b. Microlecithal and non cleidoic c. Alecithal and non cleidoic d. Alecithal and cleidoic
14. The process which the sperm undergoes before penetrating the ovum is a. Spermiation b. Cortical reaction c. Spermiogenesis d. Capacitation
15. The milk secreted by the mammary glands soon after child birth is called a. Mucous b. Colostrum c. Lactose d. Sucrose
16. Colostrum is rich in a. Ig E b. Ig A c. Ig D d. Ig M
17. The Androgen Binding Protein (ABP) is produced by a. Leydig cells b. Hypothalamus c. Sertoli cells d. Pituitary gland
18. Find the wrongly matched pair a. Bleeding phase - fall in oestrogen and progesterone b. Follicular phase - rise in oestrogen c. Luteal phase - rise in FSH level d. Ovulatory phase - LH surge
19. A – In human male, testes are extra abdominal and lie in scrotal sacs. R – Scrotum acts as thermoregulator and keeps temperature lower by 2°C for normal sperm production .
20. A – Ovulation is the release of ovum from the Graafian follicle. R – It occurs during the follicular phase of the menstrual cycle.
21. A – Head of the sperm consists of acrosome and mitochondria. R – Acrosome contains spiral rows of mitochondria.
22. All populations in a given physical area are defined as a) Biome b) Ecosystem c) Territory d) Biotic factors
23. Organisms which can survive a wide range of temperature are called a) Ectotherms b) Eurytherms c) Endotherms d) Stenotherms
24. The interaction in nature, where one gets benefit on the expense of other is... a) Predation b) Mutualism c) Amensalism d) Commensalism
25. Predation and parasitism are which type of interactions? a) (+,+) b) (+, 0) c) (--, --) d) (+, --)
26. Competition between species leads to a) Extinction c) Amensalism b) Mutation d) Symbiosis
27. Which of the following is an r-species a) Human b) Insects c) Rhinoceros d) Whale
28. Match the following

Column I	Column II
A. Mutualism	1. Lion and deer
B. Commensalism	2. Round worm and man
C. Parasitism	3. Birds compete with squirrels for nuts
D. Competition	4. Sea anemone on hermit crab
E. Predation	5. Barnacles attached to Whale
- a) A- 4, B-5, C-2, D –3, E-1 b) A- 3, B-1, C-4, D – 2, E-5 c) A- 2, B-3, C-1D – 5 E-4 d) A- 5 B-4C-2 D– 3, E-1
29. The relationship between sucker fish and shark is..... a) Competition b) Commensalism c) Predation d) Parasitism
30. Which of the following is correct for r-selected species a) Large number of progenies with small size b) large number of progeny with large size c) small number of progeny with small size d) small number of progeny with large size
31. Animals that can move from fresh water to sea called as.... a) Stenothermal b) Eurythermal c) Catadromous d) Anadromous
32. Some organisms are able to maintain homeostasis by physical means ... a) Conform b) Regulate c) Migrate d) Suspend
33. The figure given below is a diagrammatic representation of response of organisms to abiotic factors. Write A, B and C represent respectively



34. Which of the following microorganism is used for production of citric acid in industries? a) Lactobacillus bulgaris b) Penicillium citrinum c) Aspergillus niger d) Rhizopus nigricans
35. Which of the following pair is correctly matched for the product produced by them? a) Acetobacter aceti - Antibiotics b) Methanobacterium c) Penicillium notatum - Lactic acid- Acetic acid d) Saccharomyces cerevisiae - Ethanol
36. The most common substrate used in distilleries for the production of ethanol is _____ a) Soyameal c) Molasses b) Groundgram d) Corn meal
37. Cyclosporin – A is an immunosuppressive drug produced from _____ a) Aspergillus niger b) Manascus purpureus c) Penicillium notatum d) Trichoderma polysporum
38. CO₂ is not released during a) Alcoholic fermentation b) Lactate fermentation c) Aerobic respiration in animals d) Aerobic respiration in plants
39. The purpose of biological treatment of waste water is to _____ a) Reduce BOD b) Increase BOD c) Reduce sedimentation d) Increase sedimentation
40. The gases produced in anaerobic sludge digesters are a) Methane, oxygen and hydrogen sulphide. b) Hydrogen sulphide, methane and sulphur dioxide. c) Hydrogen sulphide, nitrogen and methane. d) Methane, hydrogen sulphide and CO₂.
41. Fossils are generally found in a) igneous rocks b) metamorphic rocks c) volcanic rocks d) sedimentary rocks
42. Evolutionary history of an organism is called a) ancestry b) ontogeny c) phylogeny d) paleontology
43. The golden age of reptiles was a) Mesozoic era b) Cenozoic era c) Paleozoic era d) Proterozoic era
44. Which period was called “Age of fishes”? a) Permian b) Triassic c) Devonian d) Ordovician
45. Modern man belongs to which period? a) Quaternary b) Cretaceous c) Silurian d) Cambrian
46. The Neanderthal man had the brain capacity of a) 650 – 800cc b) 1200cc c) 900cc d) 1400cc
47. According to Darwin, the organic evolution is due to a) Intraspecific competition b) Interspecific competition c) Competition within closely related species. d) Reduced feeding efficiency in one species due to the presence of interfering species.
48. A population will not exist in Hardy- Weinberg equilibrium if a) Individuals mate selectively b) There are no mutations c) There is no migration d) The population is large
49. The first life on earth originated a) in air b) on land c) in water d) on mountain
50. Who published the book “Origin of species by Natural Selection” in 1859? a) Charles Darwin b) Lamarck c) Weismann d) Hugo de Vries
51. Which of the following was the contribution of Hugo de Vries? a) Theory of mutation b) Theory of natural Selection c) Theory of inheritance of acquired characters d) Germplasm theory
52. The wings of birds and butterflies is an example of a) Adaptive radiation b) convergent evolution c) divergent evolution d) variation
53. The phenomenon of “ Industrial Melanism” demonstrates a) Natural selection b) induced mutation c) reproductive isolation d) geographical isolation
54. Darwin’s finches are an excellent example of a) connecting links b) seasonal migration c) adaptive radiation d) parasitism
55. Who proposed the Germplasm theory? a) Darwin b) August Weismann c) Lamarck d) Alfred Wallace
56. The age of fossils can be determined by a) electron microscope b) weighing the fossils c) carbon dating d) analysis of bone
57. Hershey and Chase experiment with bacteriophage showed that a) Protein gets into the bacterial cells b) DNA is the genetic material c) DNA contains radioactive sulphur d) Viruses undergo transformation
58. DNA and RNA are similar with respect to a) Thymine as a nitrogen base b) A single-stranded helix shape c) Nucleotide containing sugars, nitrogen bases and phosphates d) The same sequence of nucleotides for the amino acid phenyl alanine
59. A mRNA molecule is produced by a) Replication b) Transcription c) Duplication d) Translation
60. The total number of nitrogenous bases in human genome is estimated to be about a) 3.5 million b) 35000 c) 35 million d) 3.1 billion
61. E. coli cell grown on 15N medium are transferred to 14N medium and allowed to grow for two generations. DNA extracted from these cells is ultracentrifuged in a cesium chloride density gradient. What density distribution of DNA would you expect in this experiment? (a) One high and one low density band. (b) One intermediate density band. (c) One high and one intermediate density band. (d) One low and one intermediate density band.

62. What is the basis for the difference in the synthesis of the leading and lagging strand of DNA molecules? (a) Origin of replication occurs only at the 5' end of the molecules. (b) DNA ligase works only in the 3' → 5' direction. (c) DNA polymerase can join new nucleotides only to the 3' end of the growing strand. (d) Helicases and single-strand binding proteins that work at the 5' end.
63. Which of the following is the correct sequence of event with reference to the central dogma? (a) Transcription, Translation, Replication (b) Transcription, Replication, Translation (c) Duplication, Translation, Transcription (d) Replication, Transcription, Translation
64. Which of the following statements about DNA replication is not correct? (a) Unwinding of DNA molecule occurs as hydrogen bonds break. (b) Replication occurs as each base is paired with another exactly like it. (c) Process is known as semi conservative replication because one old strand is conserved in the new molecule. (d) Complementary base pairs are held together with hydrogen bonds.
65. Which of the following statements is not true about DNA replication in eukaryotes? (a) Replication begins at a single origin of replication. (b) Replication is bidirectional from the origins. (c) Replication occurs at about 1 million base pairs per minute. (d) There are numerous different bacterial chromosomes, with replication occurring in each at the same time.
66. The first codon to be deciphered was _____ which codes for _____. (a) AAA, proline (b) GGG, alanine (c) UUU, Phenylalanine (d) TTT, arginine
67. Meselson and Stahl's experiment proved (a) Transduction (b) Transformation (c) DNA is the genetic material (d) Semi-conservative nature of DNA replication
68. Ribosomes are composed of two subunits; the smaller subunit of a ribosome has a binding site for _____ and the larger subunit has two binding sites for two _____.
69. An operon is a: (a) Protein that suppresses gene expression (b) Protein that accelerates gene expression (c) Cluster of structural genes with related function (d) Gene that switched other genes on or off
70. When lactose is present in the culture medium: (a) Transcription of lac y, lac z, lac a genes occurs. (b) Repressor is unable to bind to the operator. (c) Repressor is able to bind to the operator. (d) Both (a) and (b) are correct.
71. A 30 year old woman has bloody diarrhoea for the past 14 hours, which one of the following organisms is likely to cause this illness? a) Streptococcus pyogenes b) Clostridium difficile c) Shigella dysenteriae d) Salmonella enteritidis
72. Exo-erythrocytic schizogony of Plasmodium takes place in ----- a) RBC b) Leucocytes c) Stomach d) Liver
73. The sporozoites of Plasmodium vivax are formed from ----- a) Gametocytes b) Sporoblasts c) Oocysts d) Spores
74. Amphetamines are stimulants of the CNS, whereas barbiturates are --- a) CNS stimulant b) both a and b c) hallucinogenic d) CNS depressants
75. Choose the correctly match pair. a) Amphetamines - Stimulant b) LSD - c) Heroin - Narcotic Psychotropic d) Benzodiazepine - Pain killer
76. The Athlete's foot disease in human is caused by----- a) Bacteria b) Fungi c) Virus d) Protozoan
77. Cirrhosis of liver is caused by chronic intake of ----- a) Opium b) Alcohol c) Tobacco d) Cocaine
78. The sporozoite of the malarial parasite is present in --- a) saliva of infected female Anopheles mosquito. b) RBC of human suffering from malaria. c) Spleen of infected humans. d) Gut of female Anopheles mosquito.
79. Match the pathogens with respective diseases caused by them and select the correct match using the codes given below.
- | | |
|--|---------------------------|
| A. Leishmania donovani - i. Amoebiasis | a) A-ii, B-iv, C-iii, D-i |
| B. Wuchereria bancrofti - ii. Kala - azar | b) A-ii, B-iv, C-i, D-iii |
| C. Trypanosoma gambiense -iii. Sleeping sickness | c) A-iii, B-i, C-ii, D-iv |
| D. Entamoeba histolytica - iv. Filariasis | d) A-i, B-iv, C-iii, D-ii |
80. Paratope is an a) Antibody binding site on variable regions b) Antibody binding site on heavy regions c) Antigen binding site on variable regions d) Antigen binding site on heavy regions
81. Allergy involves a) IgE b) IgG c) IgA d) IgM
82. Spread of cancerous cells to distant sites is termed as a) Metastasis b) Oncogenes c) Proto-oncogenes d) Malignant neoplasm
83. AIDS virus has a) Single stranded RNA b) Double stranded RNA c) Single stranded DNA d) Double stranded DNA
84. B cells that produce and release large amounts of antibody are called a) Memory cells b) Basophils c) Plasma cells d) killer cells
85. Which of the following is correct regarding HIV, hepatitis B, gonorrhoea and trichomoniasis? (a) Gonorrhoea is a STD whereas others are not. (b) Trichomoniasis is a viral disease whereas others are bacterial. (c) HIV is a pathogen whereas others are diseases. (d) Hepatitis B is eradicated completely whereas others are not.
86. Which one of the following groups includes sexually transmitted diseases caused by bacteria only? (a) Syphilis, gonorrhoea and candidiasis (b) Syphilis, chlamydiasis and gonorrhoea (c) Syphilis, gonorrhoea and trichomoniasis (d) Syphilis, trichomoniasis and pediculosis

87. Identify the correct statements from the following (a) Chlamydia is a viral disease. (b) Gonorrhoea is caused by a spirochaete bacterium, Treponema palladium. (c) The incubation period for syphilis is 2 to 14 days in males and 7 to 21 days in females. (d) Both syphilis and gonorrhoea are easily cured with antibiotics.
88. A contraceptive pill prevents ovulation by (a) blocking fallopian tube (b) inhibiting release of FSH and LH (c) stimulating release of FSH and LH (d) causing immediate degeneration of released ovum
89. The approach which does not give the defined action of contraceptive is
 (a) Hormonal contraceptive- Prevents entry of sperms, prevent ovulation and fertilization
 (b) Vasectomy - Prevents spermatogenesis
 (c) Barrier method- Prevents fertilization
 (d) Intra uterine device- Increases phagocytosis of sperms, suppresses sperm motility and fertilizing capacity of sperms
90. Statement 1: Diaphragms, cervical caps and vaults are made of rubber and are inserted into the female reproductive tract to cover the cervix before coitus.
 Statement 2: They are chemical barriers of conception and are reusable.
91. Select the incorrect action of hormonal contraceptive pills from the following (a) Inhibition of spermatogenesis. (b) Inhibition of ovulation. (c) Changes in cervical mucus impairing its ability to allow passage and transport of sperms. (d) Alteration in uterine endometrium to make it unsuitable for implantation.
92. Correct the following statements a) Transfer of an ovum collected from donor into the fallopian tube is called ZIFT. b) Transferring of an embryo with more than 8 blastomeres into uterus is called GIFT. c) Multiload 375 is a hormone releasing IUD.
93. Match column I with column II and select the correct option from the codes given below.
- | Column I | Column II |
|-------------------------|----------------------|
| A. Copper releasing IUD | (i) LNG-20 B. |
| B. Hormone releasing | (ii) Lippes loop IUD |
| C. Non medicated IUD | (iii) Saheli |
| D. Mini pills | (iv) Multiload-375 |
- (a) A-(iv), B-(ii), C-(i), D-(iii) (b) A-(iv), B-(i), C-(iii), D-(ii) (c) A-(i), B-(iv), C-(ii), D-(iii) (d) A-(iv), B-(i), C-(ii), D-(iii)
94. Which of the following phenotypes is not possible in the progeny of the parental genotypic combination IAIO X IAIB? a) AB c) A b) O d) B
95. Which of the following is true about Rh factor in the offspring of a parental combination DdxDd (both Rh positive)? a) All will be Rh positive b) Half will be Rh positive c) About $\frac{3}{4}$ will be Rh negative d) About one fourth will be Rh negative
96. What can be the blood group of offspring when both parents have AB blood group? a) AB only b) A, B and AB c) A, B, AB and O d) A and B only
97. If the child's blood group is 'O' and father's blood group is 'A' and mother's blood group is 'B' the genotype of the parents will be a) IA IA and IB Io c) IA Io and Io Io b) IA Io and IB Io d) Io Io and IB IB
98. XO type of sex determination and XY type of sex determination are examples of a) Male heterogamety b) Female heterogamety c) Male homogamety d) Both (b) and (c)
99. In an accident there is great loss of blood and there is no time to analyse the blood group which blood can be safely transferred? a) O and Rh negative b) O and Rh positive c) B and Rh negative d) AB and Rh positive
100. Father of a child is colourblind and mother is carrier for colourblindness, the probability of the child being colourblind is a) 25% b) 50% c) 100% d) 75%