

1. Paraphyletic group includes only
  - A) Some descendent species of the common ancestor
  - B) All descendent species of the common ancestor
  - C) All descendent species of more than one ancestor
  - D) Some descendent species of more than one character
  
2. Determination of ancestral relationships of organisms and the group's evolutionary history through time is
 

A) Identification	B) Taxonomy
C) Phylogeny	D) Systematics
  
3. Match the following
 

A	B
1. Willi Hennig	a. Systema naturae
2. Carolus Linnaeus	b. Systematics
3. Simpson	c. Father of biological classification
4. Aristotle	d. Cladism

  

A) 1-d,2-b,3-c,4-a	B) 1-b,2-a, 3-d,4-c
C) 1-a,2-d,3-c,4-b	D) 1-d,2-a,3-b,4-c
  
4. Numerical taxonomy is otherwise called
 

A) Phenetics	B) Phenogram
C) Phylogenetics	D) Cladistics
  
5. Out of the following statements about glass sponges, which one is false?
  - A) Especially abundant in Antarctic region
  - B) Body wall is a syncytium
  - C) They are upright and completely sessile
  - D) A cellular pinacoderm and choanoderm are present
  
6. Consider the following statements:  
 Assertion: Closely related organisms should have proteins with very similar amino acid sequences /genes with the same or similar base sequences  
 Reason: 1. Members of the same species are identical at the molecular level  
 Reason: 2. Distantly related organisms are more and more different at the molecular level
  - A) Assertion is false and reason 1 and 2 supports assertion
  - B) Assertion is true and reason 1 and 2 supports assertion
  - C) Assertion is true and reason 1 only supports assertion
  - D) Assertion is false and reason 1 and 2 do not support assertion
  
7. The organ which creates water current towards the mouth in Amphioxus?
 

A) Velum	B) Wheel organ	C) Snout	D) Vestibule
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8. Retrogressive metamorphosis is seen in  
 A) Cephalochordates                      B) Rotifers  
 C) Urochordates                              D) Cnidarians
9. Consider the following statements: -  
 Assertion: The phenomenon of retention of larval characters of axolotl is called neoteny and they become sexually mature to start reproduction  
 Reason 1 : When water and food are abundant, they do not metamorphose into adults  
 Reason 2 : If water and food are scarce, they lose gills and tail, develop lungs and metamorphose into adults  
 Reason 3 : If water and food abundant, they metamorphose into adults
- A) Assertion is true and reason 1 supports assertion  
 B) Assertion is true and reason 1 and 2 support assertion  
 C) Assertion is false and reason 1 does not support assertion  
 D) Assertion is false and reason 1 and 2 do not support assertion
10. Match the following
- | <b>A</b>     | <b>B</b>                       |
|--------------|--------------------------------|
| a. Draco     | 1. Nocturnal and insectivorous |
| b. Gecko     | 2. Patagium                    |
| c. Varanus   | 3. Fossorial lizard            |
| d. Uromastix | 4. Largest living lizard       |
- A) a-2, b-1, c-4, d-3                      B) a-2, b-1, c-3, d-4  
 C) a-1, b-2, c-4, d-3                      D) a-3, b-2, c-1, d-4
11. Organ of Corti is  
 A) Made up of cells specially modified for recovering sound waves  
 B) Involved in keeping equilibrium  
 C) Is the point of origin of ureter from kidney  
 D) Is a concave depression on the inner side of kidney
12. Out of the following which is not fishing gear?  
 A) Harpoon                                      B) Trap  
 C) Dug-out canoe                              D) Purse-sein
13. Match the following
- | <b>A</b>               | <b>B</b>         |
|------------------------|------------------|
| 1. Green mussel        | a. Perna indica  |
| 2. Brown mussel        | b. Raft culture  |
| 3. Pinctada            | c. Chilka lake   |
| 4. Etroplus suratensis | d. Perna viridis |
- A) 1-d,2-b,3-a,4-c                      B) 1-d,2-c,3-a,4-b  
 C) 1-d,2-a,3-b,4-c                      D) 1-d,2-c,3-b,4-a
14. Spodoptera mauritia is a pest of  
 A) Paddy                      B) Maize                      C) Sugar cane                      D) Rubber

15. Dinosaurs became completely extinct in  
 A) Oligocene epoch                      B) Eocene epoch  
 C) Palaeocene epoch                      D) Meocene epoch
16. A perfect nutrient cycle is a biogeochemical cycle in which  
 A) The Cycling is imperfect and the nutrients removed from the cycle are not fully compensated by their release  
 B) The nutrients are replaced as fast as they are removed from the reservoir pools  
 C) The nutrients are released largely by deep sediments such as weathering rocks  
 D) The atmosphere serves as the reservoir pool
17. Out of the following which is not a process of ecological succession?  
 A) Nudation      B) Ecesis              C) Dominance      D) Competition
18. Match the following
- | <b>A</b> |                  | <b>B</b> |  |
|----------|------------------|----------|--|
| 1.       | Amensalism       | a.       | Population 1 benefits, population 2 unaffected |
| 2.       | Competition      | b.       | Population 1 unaffected, population 2 harmed   |
| 3.       | Commensalism     | c.       | Direct inhibition of each species by the other |
| 4.       | Neutralism       | d.       | Neither population affects the other           |
| A)       | 1-b,2-a,3-c,4-d  | B)       | 1-b,2-d,3-c,4-a                                |
| C)       | 1-d,2-b, 3-c,4-a | D)       | 1-b,2-c,3-a,4-d                                |
19. Symbiotic origin of mitochondria and chloroplasts has been confirmed by  
 A) Molecular taxonomy                      B) Numerical taxonomy  
 C) Taxonomic hierarchy                      D) Hierarchial taxa
20. Which of the following statements are true?  
 1. Metamerism affects the endodermal and mesodermal regions of the body  
 2. Homonomous segmentation is only hypothetical  
 3. Many animals exhibit heteronomous type of segmentation in which the segments are variously modified for doing different functions  
 4. Pseudo-metamerism is exhibited by Nereis
- A) 1 and 4 only                      B) 3 and 4 only  
 C) 1 and 2 only                      D) 2 and 3 only
21. Niche of an organism refers to the  
 A) Functional role it plays in the ecosystem  
 B) Environment, where an organism lives  
 C) Specific regions in a habitat where individual organisms live  
 D) Co-existing species of animals
22. How are transcription activators classified?  
 A) According to the type of RNA binding and domain  
 B) According to the type of DNA binding and domain  
 C) According to the type of receptor domain  
 D) According to the type of enzyme domain

23. Regulated stage of gene expression is  
 A) DNA-RNA transcription      B) RNA transport  
 C) Translation                      D) mRNA degradation
24. A few statements with regard to Ozone depletion is given below. Find out which is **not** true:  
 A) Increased terrestrial reflection of infrared heat  
 B) Influx of high level of UV radiation  
 C) Increased incidence of squamous cell carcinoma  
 D) Decreases greenhouse effect
25. Itai-Itai is a disease caused by a metal pollution in Japan. Which is the metal?  
 A) Lead                      B) Cadmium              C) Zinc                      D) Arsenic
26. Which is not a type of ionizing radiation emitted by radioactive substances?  
 A) Alpha                      B) Delta                      C) Beta                      D) Gamma
27. Out of the following statements with respect to ionizing radiation, which is false?  
 A) Very high energy radiations  
 B) Able to remove electrons from atoms  
 C) Is believed to be the one of the chief causes of injury to protoplasm  
 D) UV light is an example
28. With respect to Red Data Book, which statement is **not** true?  
 A) Red pages contain the list of the most endangered species, which are on the verge of extinction  
 B) Pink pages include the critically endangered species  
 C) Green pages include those species that were formerly endangered, but now recovered and no longer threatened.  
 D) Yellow pages contain species which have the possibility to become extinct
29. Which date is observed as 'World Environment Day'?  
 A) June 5<sup>th</sup>                      B) July 5<sup>th</sup>                      C) June 6<sup>th</sup>                      D) June 4<sup>th</sup>
30. Match the following
- | <b>A</b>                        | <b>B</b>             |
|---------------------------------|----------------------|
| 1. Sunderbans biosphere reserve | a. Arunachal pradesh |
| 2. Nokrek                       | b. Uttar pradesh     |
| 3. Namdapha                     | c. Meghalaya         |
| 4. Nandadevi                    | d. West Bengal       |
- A) 1-d,2-b,3-c,4-a                      B) 1-d,2-c,3-a,4-b  
 C) 1-d,2-a,3-b,4-c                      D) 1-d,2-a,3-c,4-b
31. A few statements are given below. Find out which ones are true?  
 1. The cerebral cortex is not very essential for learning and memory  
 2. Temporal lobe of primates plays a significant role in the learning of touch discrimination  
 3. Learning occurs at many parts of the brain at once and no one part is absolutely essential
- A) 1 and 2                      B) 1, 2 and 3                      C) 2 and 3                      D) 1 and 3

32. Match the following
- | <b>A</b> |                                    | <b>B</b> |                  |
|----------|------------------------------------|----------|------------------|
| 1.       | Palolo worms                       | a.       | Annual rhythm    |
| 2.       | 24 hour solar cycle                | b.       | Free runners     |
| 3.       | Nesting of birds                   | c.       | Circadian rhythm |
| 4.       | Deviation from the regular pattern | d.       | Lunar rhythm     |
- A) 1-d,2-c,3-b,4-a                      B) 1-d,2-c,3-a,4-b  
 C) 1-b,2-c,3-d,4-a                      D) 1-c,2-d,3-a,4-b
33. The chemoreceptors of the male silkworm moth are located in its  
 A) Nostrils              B) Eyes              C) Antennae              D) Skin
34. In which form is the iron in the human hemoglobin found?  
 A) Monovalent state                      B) Divalent state  
 C) Trivalent state                      D) Ferric state
35. What is diastolic pressure?  
 A) The blood pressure existing in the large arteries  
 B) The minimum blood pressure during ventricular diastole before the beginning of the next systole  
 C) Arterial blood pressure during ventricular contraction  
 D) The average between the mean and pulse pressure
36. Which one of the following steps related to platelet is false?  
 A) They are formed by the fragmentation of large cells called megakaryocytes  
 B) Megakaryocytes are derived from the stem cells in the bone marrow  
 C) Their production is regulated by a hormone called thrombopoietin  
 D) Thromboplastin also regulates the production of thrombocytes
37. What is hypernatremia?  
 A) An increase in plasma Vitamin D level above normal  
 B) An increase in natriuretic hormone in blood above normal  
 C) An increased erythropoietin level in plasma  
 D) An increase in plasma sodium level above normal
38. Which among the following statements about loop of Henle is false?  
 A) Loop of Henle begins in the medulla of the Kidney  
 B) Its primary role is to concentrate the salt in the interstitium, the tissue surrounding the loop  
 C) It begins in the cortex, receives filtrate from the proximal convoluted tubule  
 D) Finally, it returns to the cortex and empty into the distal convoluted tubule
39. Which among the following is **not** true?  
 A) Fat synthesis is accentuated by an uptake of glucose  
 B) Insulin influences the active transport of glucose across the renal tubules  
 C) Insulin does not influence the active transport of glucose across gastrointestinal epithelium  
 D) Glycogen synthesis is also accentuated by an uptake of glucose

40. Find out the correct ejaculation pathway of sperm
- A) Efferent ductules—>Epididymis—>Ductus deferens—>Ejaculatory duct  
 B) Epididymis—>Ductus deferens—Ejaculatory duct—>Efferent ductules  
 C) Epididymis—>Dductus deferens—>Efferent ductules—>Ejaculatory duct  
 D) Ductus deferens—>Epididymis—>Efferent ductules—>Ejaculatory duct
41. Whether relaxed or contracted, which part in a myofibril always remain the same length?
- A) I band                      B) H-Zone                      C) A band                      D) Z-Zone
42. Match the following
- | <b>A</b>   |                    | <b>B</b> |  |
|--|--------------------|----------|--|
| 1. Activation of B cells                           |                    | a. Ig A  |  |
| 2. Mediator in allergic response                   |                    | b. Ig E  |  |
| 3. Stimulation of phagocytes and complement system |                    | c. Ig M  |  |
| 4. Protection from inhaled and ingested pathogen   |                    | d. Ig G  |  |
| A) 1-c,2-d,3-b,4-a                                 | B) 1-c,2-a,3-b,4-d |          |  |
| C) 1-b,2-c,3-d,4-a                                 | D) 1-c,2-b,3-d,4-a |          |  |
43. Match the following
- | <b>A</b>             |   | <b>B</b> |  |
|----------------------|---|----------|--|
| 1. Helper T cells    | a. Bind to and destroy target cells                             |          |  |
| 2. Cytotoxic T cells | b. Activate T or B lymphocytes to become plasma cells           |          |  |
| 3. Plasma cells      | c. Cells that are active in the production of antibodies        |          |  |
| 4. Killer T cells    | d. Combine with antigen, causing lysis and release of cytokines |          |  |
| A) 1-b,2-c,3-a,4-d   | B) 1-b,2-a,3-c,4-d  |          |  |
| C) 1-a,2-c,3-b,4-d   | D) 1-a,2-d,3-b,4-c  |          |  |
44. Match the following
- | <b>A</b>               |                                       | <b>B</b> |  |
|------------------------|---------------------------------------|----------|--|
| 1. Radial cleavage     | a. Annelids, molluscans and flatworms |          |  |
| 2. Spiral cleavage     | b. Mammals and nematodes              |          |  |
| 3. Bilateral cleavage  | c. Tunicates                          |          |  |
| 4. Rotational cleavage | d. Echinoderms and flatworms          |          |  |
| A) 1-d,2-a,3-c,4-b     | B) 1-d,2-a,3-b,4-c                    |          |  |
| C) 1-d,2-c,3-b,4-a     | D) 1-a,2-d,3-b,4-c                    |          |  |
45. Cotyledonary placenta is seen in
- A) Pig                      B) Sheep                      C) Bear                      D) Rodents
46. For In Vitro Fertilization, during the ovulatory phase of the menstrual cycle, the hormone injected to stimulate several follicles to grow is
- A) Human chorionic gonadotropin  
 B) Estrogen  
 C) Progesterone  
 D) Estrogen and progesterone

47. Chi-square test is applied when theoretical frequency is  
 A) Lower than 5                      B) At least 10 or above 10  
 C) Which is not Below 10        D) No lower limit
48. Starch is a mixture of  
 A) Amylase and amylopectin    B) Amylose and amylopectin  
 C) Cellulose and amylose        D) Sucrose and trehalose
49. A few statements are given below about a particular Vitamin. Find out the Vitamin  
 1. The outer layers of the seeds of plants are especially rich in this Vitamin  
 2. Whole-wheat bread is an excellent source, where as ordinary white bread is a poor source  
 3. Excessive cooking leaches this water-soluble vitamin from many food materials  
 A) Vi. A                      B) Vi. B12                      C) Vi. B1                      D) Vi. B2
50. Which of the following is **not** a cause of Ketosis?  
 A) Starvation  
 B) Abrupt replacement of a normal diet by a low carbohydrate and high fat diet  
 C) Diabetes mellitus  
 D) Low level of exercise during dieting
51. The first step in ornithine cycle is the synthesis of  
 A) Carbamyl phosphate            B) Arginine  
 C) Citrulline                      D) Arginosuccinic acid
52. Which amino acid after transamination directly enters the Kreb's cycle at oxaloacetic stage?  
 A) Glutaric acid    B) Alanine                      C) Serine                      D) Aspartic acid
53. A few statements about the uses of NMR Spectroscopy is given below. Find the wrong one.  
 A) Gives a complete three- dimensional structure of small proteins in solutions  
 B) Reveals dynamics E g., Tyr and Phe ring flips (motion in solution)  
 C) Can't follow ligand binding  
 D) Depicts conformational changes during folding
54. Match the following
- | <b>A</b>                       | <b>B</b>  |
|--------------------------------|---|
| 1. Thin layer chromatography   | a. Columns are made up of synthetic resins                |
| 2. Ion exchange chromatography | b. Isolation of specific immunoglobulin from antisera     |
| 3. Affinity chromatography     | c. Separation of different fatty acids                    |
| 4. Gas chromatography          | d Alumina and silica gel are the commonly used adsorbents |
- A) 1-d,2-a,3-b,4-c                      B) 1-d,2-a,3-c,4-b  
 C) 1-a,2-d,3-b,4-c                      D) 1-a,2-d,3-c,4-b

55. Chromosomal crossing over occurs during the
- Prophase of 1<sup>st</sup> meiotic division
  - Prophase of 2<sup>nd</sup> meiotic division
  - Metaphase of 1<sup>st</sup> meiotic division
  - Anaphase of 1<sup>st</sup> meiotic division
56. Psuedoautosomal segment of both X and Y chromosomes carry
- Completely sex-linked genes
  - Incompletely sex-linked genes
  - X-linked genes
  - Holandric genes
57. Which one is not an autosomal disorder?
- Sickle-cell anemia
  - Taysach disease
  - Thalassemia
  - Albinism
58. The characteristic cell wall material peptidoglycan is present in
- Eukaryotes
  - Archaeobacteria
  - Certain viruses
  - Eubacteria
59. Find out the factor which does not influence the enzyme activity?
- Substrate concentration
  - Humidity
  - Temperature
  - pH
60. What is the key role of the voltage-gated K<sup>+</sup> ion channel?
- Muscle contraction
  - Nerve conduction
  - Movement of water molecules
  - All of the above
61. Match the following
- | <b>A</b>     | <b>B</b>                |
|--------------|-------------------------|
| 1. Leptotene | a. Tetrad               |
| 2. Zygotene  | b. Chiasmata            |
| 3. Pachytene | c. Bouquet formation    |
| 4. Diplotene | d. Synaptonemal complex |
- 1-c,2-d,3-b,4-a
  - 1-c,2-d,3-a,4-b
  - 1-c,2-a,3-b,4-d
  - 1-c,2-a,3-d,4-b
62. Which among the following is not a genetic disorder?
- Cystic fibrosis
  - Huntington's disease
  - Emphysema
  - Glioblastoma
63. The correct sequences involved in the flow of genetic information
- Replication-→Translation-→ Transcription
  - Translation----→ Transcription-----→ Replication
  - Replication----→ Transcription-----→ Translation
  - Transcription-→ Translation----→ Replication



64. A few statements are given below with respect to transposons. Find out the one which is false.
- They were first discovered in maize genome
  - Sometimes they cause mutation by messing up the coding sequences in the gene they are sitting in.
  - It can boost up the expression of the invaded genes or turn off the expression of a neighboring gene, once it has inserted itself into a gene
  - A transposable element found in human genome is the Alu transposon
65. Which one of the following statements is true?
- Carcinomas arise from connective tissues
  - Sarcomas arise from epithelial cells of ectoderm and endoderm
  - Cancer cells follow the programmed cell death
  - Cervical, breast and skin cancers are carcinomas and carcinomas include about 85% of human Cancers.
66. Satellite DNAs consist of sequences with length
- |                     |                      |
|---------------------|----------------------|
| A) 5- 500 base pair | B) 5 – 200 base pair |
| C) 5 –300 base pair | D) 5 –100 base pair  |
67. Match the following
- | A   | B                       |
|---|-------------------------|
| 1. A cross made with a recessive parental type  | a. Co-dominance         |
| 2. A cross made with any of the recessive or parental type  | b. Test cross           |
| 3. If the dominant factor cannot completely suppress the recessive, but the expression becomes intermediate between the two | c. Back cross           |
| 4. If both the dominant and recessive characters express themselves in the offspring  | d. Incomplete dominance |
- |                    |                    |
|--------------------|--------------------|
| A) 1-b,2-c,3-d,4-a | B) 1-b,2-d,3-c,4-a |
| C) 1-b,2-c,3-a,4-d | D) 1-b,2-a,3-c,4-d |
68. The terminator codons on the mRNA during protein synthesis
- |                |                    |
|----------------|--------------------|
| A) UCC UGA CGA | B) CCA CCG GCC AGA |
| C) AAG CCA GAC | D) UAA UAG UGA     |
69. The enzyme which converts the pyruvate to oxaloacetate in gluconeogenesis
- |                         |                               |
|-------------------------|-------------------------------|
| A) Glucose6-phosphatase | B) Fructose 1,6 diphosphatase |
| C) Pyruvate carboxylase | D) Enolase                    |
70. LH and FSH are collectively called:
- |                 |                   |
|-----------------|-------------------|
| A) Oxytocin     | B) Somatotrophins |
| C) Luteotrophic | D) Gonadotrophins |
71. Gizzard (proventriculus) in cockroach lies between
- |                           |                        |
|---------------------------|------------------------|
| A) oesophagus and stomach | B) crop and mesenteron |
| C) mesenteron and ileum   | D) oesophagus and crop |



79. Chemosynthetic autotrophic bacteria are named so because  
 A) They oxidize various inorganic substances such as nitrates, nitrites and ammonia and use the released energy for their ATP production.  
 B) They oxidize various organic substances and use the released energy for their ATP production.  
 C) Both A and B  
 D) None of these
80. Hydra is  
 A) Fresh water, diploblastic & radially symmetrical  
 B) Marine, diploblastic & radially symmetrical  
 C) Marine, triploblastic & bilaterally symmetrical  
 D) Fresh water, triploblastic & radially symmetrical
81. Which one of the following is an annelid?  
 A) Taenia            B) Nereis            C) Ascaris            D) Fasciola
82. Rearing of honey bee is called  
 A) Sericulture    B) Lac culture    C) Vermiculture    D) Apiculture
83. Anadromous fishes move  
 A) From sea to fresh water.    B) From sea to estuary.  
 C) From river to sea            D) From estuary to sea
84. Match the epithelial tissue given in column-I with its location given in column-II and choose the correct option.

Column I	Column II
(Epithelial tissue)	(Location)
a) Cuboidal	1. Epidermis of skin
b) Ciliated	2. Inner lining of blood vessels
c) Columnar	3. Inner surface of gall bladder
d) Squamous	4. Inner lining of fallopian tube
e) Keratinized	5. Lining of pancreatic duct squamous

- A) a- 5, b- 4, c- 2, d- 3, e- 1    B) a- 3, b- 4, c- 5, d- 2, e-1  
 C) a- 5, b- 4, c- 3, d-2, e- 1    D) a- 3, b- 4, c- 5, d- 1, e-2
85. Which one of the following belongs to agricultural crop pest.  
 A) *Musca domestica*            B) *Pediculus humanis*  
 C) *Dysdercus singulatus*        D) *Tribolium castaneum*
86. Bombykol belongs to  
 A) aggregation pheromone        B) alarm pheromone  
 C) trail pheromone                D) sex pheromone
87. A temporal series of organisms, populations, cells, or genes connected by a continuous line of descent from ancestor to descendent is called  
 A) Lineage            B) Cline            C) Deme            D) Clutch

88. A diagram that represents evolutionary relationships among organisms is known as  
 A) phylogenetic tree                      B) pedigree chart  
 C) cladogram                                D) phenogram
89. Which among the following is not a hominid fossil  
 A) *Australopithecus afarensis*    B) *Ardipithecus ramidus*  
 C) *Homo rudolfensis*                    D) *Aegyptopithecus Zeuxis*
90. Hyper secretion of adrenal cortex causes  
 A) Addison's disease                      B) Down's syndrome  
 C) Cushing's syndrome                  D) Acromegaly
91. The activity of Leydig cells is governed by a pituitary hormone abbreviated as  
 A) HCG                      B) ACTH                      C) FSH                      D) ICSH
92. The Baltimore system of classification is related to  
 A) Virus                      B) Fungi                      C) Protozoa                  D) Bacteria
93. Within biological communities, some species are important in determining the ability of a large number of other species to persist in the community. Such species are called  
 A) Keystone species                      B) Allopatric species  
 C) Sympatric species                      D) Threatened species
94. The evolutionary theories like arboreal theory, the visual predation theory and the angiosperm co-evolution theory are associated with  
 A) primate origin                          B) chiropteran origin  
 C) archeopteran origin                    D) odonate origin
95. The period which marks the first appearance of trilobites is  
 A) Devonian                                B) Permian  
 C) Cambrian                                D) Ordovician
96. Which among the following is/are true about complement system?  
 1. lysis of infectious organism    2. activation of inflammation  
 3. opsonization                          4. immune clearance  
 A) 1 and 2 only                            B) 3 only  
 C) 2 , 3 & 4 only                          D) All the above
97. The genetic disorder sickle-cell anemia is an example of  
 A) pleiotropy                                B) heterozygous dominance  
 C) epistasis                                 D) homozygous dominance
98. Which of the following genotypes causes Klinefelter syndrome?  
 A) XO                      B) XX                      C) XXY                      D) XYY
99. During this phase of cell cycle the sister chromatids are already separated  
 A) Metaphase II    B) G2 phase                  C) Anaphase                  D) Prophase

100. The PCR is used to  
 A) Obtain large quantity of protein  
 B) Obtain large quantity of DNA  
 C) Obtain large quantity of RNA  
 D) Convert DNA into RNA
101. What is the key difference between mitosis in plant cells and mitosis in animal cells?  
 A) The chromosomes aren't duplicated during interphase in plant cells.  
 B) Animal cell mitosis results in two daughter cells; plant mitosis produces three.  
 C) The two daughter cells formed in plant cell mitosis aren't genetically identical.  
 D) A cell plate is formed during mitosis in plant cells.
102. The termination codon is not  
 A) AUG                      B) UAA                      C) UAG                      D) UGA
103. Wobble hypothesis was first proposed by  
 A) Nirenberg                      B) Watson and Crick  
 C) Watson                      D) Crick
104. Which is the third step in elongation in bacteria during translation?  
 A) Peptide bond formation                      B) Binding of an incoming aminoacyl t-RNA  
 C) Translocation                      D) None of these
105. Linked genes do not assort independently because they:  
 A) are in the centromere  
 B) are always recessive  
 C) are on the same chromosome  
 D) are repulsing each other
106. In *Drosophila*, eye colour is sex-linked and red eye colour is dominant to white eye colour. Which of the following are not possible in a cross between a red-eyed male and a heterozygous female?  
 A) Red-eyed male.                      B) White-eyed male.  
 C) Carrier female.                      D) Homozygous white-eyed female
107. In Hamburger phenomenon the ions exchanged are  
 A)  $K^+$  and  $Na^+$                       B)  $HCO_3^-$  and  $Cl^-$   
 C)  $H^+$  and  $NO_3^-$                       D)  $SO_2^-$  and  $Cl^-$
108. The RNA polymerase core enzyme convert into a holoenzyme by joining with  
 A)  $\alpha$  sub unit                      B)  $\beta$  sub unit                      C)  $\beta'$  sub unit                      D)  $\sigma$  sub unit
109. Pick the correct pair with respect to primers used in DNA replication.  
 A) RNA primer- for prokaryotes only  
 B) RNA primer- for both prokaryotes and eukaryotes  
 C) DNA primer- for both prokaryotes and eukaryotes  
 D) DNA primer-for eukaryotes only

110. The dideoxy sequencing method of DNA is also known as  
 A) Maxam and Gilbert method B) Sanger's enzymatic sequencing  
 C) Autosequencing D) Pyrosequencing
111. Shine – Dalgarno sequence is a  
 A) Open Reading frame B) Ribosome binding site  
 C) Stop codon D) Start codon
112. Which of the following histones bind to linker DNA?  
 A) H1 B) H2A C) H2B D) H3
113. In which stage of genetic engineering a probe is used?  
 A) Cleaving DNA B) Recombining DNA  
 C) Cloning D) Screening
114. Repressor molecules bind to  
 A) Operator B) Promoter  
 C) Enhancer D) Hormone response element
115. Which of the following contractile protein of skeletal muscle involve in ATPase activity?  
 A) Troponin B) Myosin C) Tubulin D) Tropomyosin
116. How do steroid hormones produce their effects in cells?  
 A) By activating key enzymes in metabolic pathway  
 B) By promoting degradation of specific m-RNAs  
 C) By activating translation of certain m-RNAs  
 D) By binding to intracellular receptors and promoting transcription of specific genes
117. Choose the correct order in geological time scale  
 A) palaeozoic → archaeozoic → coenozoic  
 B) archaeozoic → palaeozoic → proterozoic  
 C) palaeozoic → mesozoic → coenozoic  
 D) mesozoic → archaeozoic → proterozoic
118. Convergent evolution results in  
 A) common set of characters in group of different ancestry  
 B) dissimilar characters in closely related groups  
 C) common set of characters in closely related groups  
 D) random mating
119. The cytochrome b and cytochrome c<sub>1</sub> of mitochondrial electron transport chain is located in enzyme  
 A) Complex I B) Complex II C) Complex III D) Complex IV
120. The concept of limiting effect of maximum and minimum of a factor on the growth of organism is known as  
 A) Law of Minimum B) Competition Exclusion Principle  
 C) Bergman's Rule D) Law of Tolerance