

PART- A

I. Select the correct alternative from the choices given below:

1. The severe and fatal malaria is caused by plasmodium species

- a. P. vivax b. P. falciparum
c. p. ovale d. P. malariae

2. Match the following and choose the correct answer

1. Natural active	i. injection of patient by antiserum.
2. Artificial passive	ii. from mother to foetus through placenta.
3. Artificial active	iii. fighting infection naturally.
4. Natural passive	iv. Induced by vaccination.

- a. 1-iii, 2-i, 3-iv, 4-ii . b. 1- ii,2- iii,3-iv,4-i
c. 1-i, 2-iv, 3-iii,4-ii d. 1-iii,2- ii,3-iv,4-i

3. Which one is an incorrect pair

- a. Toddy-palm b. LAB - Vit.B12
c. Swiss cheese – *Penicillium roquefortii* d. Bread – Baker's yeast

4. Enzymes necessary for recombination DNA technology are

- Endonucleases and polymerases
- Restriction endonucleases and ligases.
- Peptidases and ligases
- Restriction endonucleases and topoisomerases.

5. The persistent nucellus in the seed is known as

- a. Perisperm b. Hilum c. Tegmen d. Chalaza

6. Sperms are produced in

- a. Vas deferens b. Seminiferous tubules
c. Prostate gland d. Interstitial cells

7. The pyramid which cannot be inverted in a stable ecosystem is that of

- a. Biomass b. Number c. Energy d. All the above

8. What is shown in following figures:



Variety of beaks of Darwin's finches

- Variety of beaks of finches Darwin found in cocos island
- Variety of beaks of finches Darwin found in pacific island
- Variety of beaks of finches Darwin found in western ghats
- Variety of beaks of finches Darwin found in Galapagos Island.

- 9.AIDS virus spreads in body through

- a. Suppressor T-cells
 - b. Carrier T-cells
 - c. Helper T-cells
 - d. Killer T- cells
10. An autoimmune disease is
- a. Rheumatoid Arthritis
 - b. Cancer
 - c. Asthma
 - d. allergy
11. Adapter molecule is
- a. m RNA
 - b. r RNA
 - c. DNA
 - d. t RNA
12. What is the genetic disorder in which an individual has an overall masculine development , Gynaecomastia and is sterile?
- a. Klinefelter's syndrome
 - b. Edward syndrome
 - c. Down's syndrome
 - d. Turner's syndrome
13. Secondary producers are
- a. Herbivores
 - b. saprophytes
 - c. Carnivores
 - d. none
14. Male and female gametes are
- a. Diploid
 - b. haploid
 - c. Triploid
 - d. none
15. Ramapithecus was more like
- a. Man
 - b. Ape
 - c. Chimpanzee
 - d. Gorilla

II. Fill up the blanks with the appropriate word given below: 1x5=5

(rhino virus, sacred grooves, LH, retro virus, Ocean, human papilloma virus)

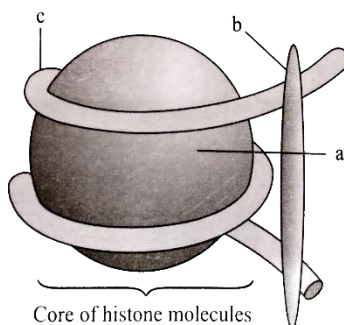
- 16. Ovulation is induced by a hormone called.....
- 17. The major reservoir of carbon on earth is
- 18. In India Tracts of forest were selected where trees and wild life were venerated and given total protection called
- 19. HIV belongs to a group of viruses called.....
- 20. Common cold is caused by most infectious group of viruses called

PART B

II. Answer (any 5) of the following:

2 x 5 =10

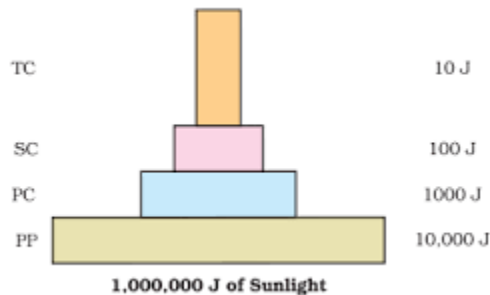
- 21. How do biofertilisers enrich the fertility of soil? Explain with two examples.
- 22. Differentiate free nuclear and cellular endosperm.
- 23. Mention any two autosomal genetic disorders with their symptoms.
- 24. Name the diagram and label the following diagram.



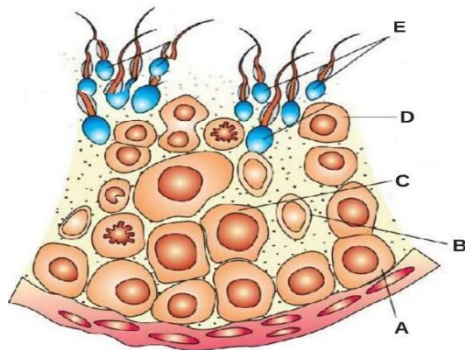
- 25. What are biological response modifiers? Give example.
- 26. Define a. founder effect
- b. saltation
- 27. Draw a neat labeled diagram of human ovum surrounded by sperms.
- 28. list out any four ill effects of alcohol abuse.

PART C

29. Draw a neat label diagram of the mature embryo sac.
30. Name the Hormone releasing, copper releasing and non- medicated IUD.
31. Explain three chromosomal disorders with examples.
32. Draw a neat labeled diagram of simple stirred tank bioreactor.
33. a. Name this pyramid. b. What is 10% law
c. what is the % of photosynthetically active radiation(PAR) in incident solar radiation.



34. list out any three uses of GM plants.
35. Label the following diagram of seminiferous tubule.



36. What is aminocentesis? Explain it's procedure and it's uses.

PART D (SECTION I)

iv. Answer any four of the following:

4x5=20

37. What is triple fusion? Where and how does it take place. name the nuclei involved in triple fusion.
38. Explain the salient features of human genome project.
39. Answer the following:
- Name the disease which causes severe abdominal pain, constipation, cramps stools with mucus and blood clots.
 - Name the pathogen of filariasis.
 - Name the diagnostic test for typhoid.
 - Which organ of the body is affected in pneumonia.
 - What type of disease does malaria belong to.
40. Draw a neat labeled diagram of human female reproductive system.
41. What is gene therapy? Illustrate using example of ADA deficiency.
42. Write a note on a. Hardy – Weinberg principle
b. Adaptive radiation
43. Define innate immunity. Explain four types of barriers with examples.
44. Define the following terms with examples
- Camouflage
 - Commensalism
 - Mutualism
 - Emigration
 - Natality.

Section II

V. Answer (any one) of the following: 1x5=5

45. Diagrammatically represent Millers experiment.

46. Explain dihybrid cross.

47. Diagrammatically explain replication of a retrovirus.
