

HIGHER SECONDARY QUARTERLY EXAMINATION - 2017

BIOLOGY

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12 - Std

BIO - BOTANY

Marks : 150

Time : 3.00 Hrs

PART-A

Note : Answer All questions. Choose the correct answers :-

14 X 1 = 14

1. Which system of classification helps to determine the relationships between various groups of plants
a) Artificial system **b) Natural system** c) Phylogenetic system d) Biosystematics
2. The name of the family is always based on a) Author b) Species **c) Type genus** d) Place
3. Bast fibre is obtained from
b) Hibiscus cannabinus b) Hibiscus esculanta c) Gossypium barbadans d) Gossypium hirsutum
4. Which plant is referred as Paalperukki tree
a) Euphorbia pulcherrima b) Euphorbia tirucalli c) Euphorbia antiquorum d) Croton sparciflorus
5. Strength to the young organs is provided by
a) Sclerenchyma b) Parenchyma **c) Collenchyma** d) Chlorenchyma
6. The food conducting tissue in Gymnosperms
a) Xylem vessels b) Sieve tube **c) Sieve cells** d) Companion cells
7. The important functions of Casparian Strips
b) It conducts water from cortex to xylem c) It provides mechanical strength
a) It prevents re-entry of water into cortex from xylem.
8. 'One gene one enzyme hypothesis' was proposed by
a) Waton and crick b) Batson and Punnet c) Messelson and Stahl **d) Beadle and Tatum**
9. Recombination of chromosome takes place in which stage.
a) Leptotene b) Zygotene **c) Pachytene** d) Diplotene
10. The chromosomal aberration useful in the evolution of the organism is
a) Duplication b) Deletion c) Inversion d) Translocation
11. The internucleotide distance of DNA **a) 3.4 A°** b) 34 A° c) 20 A° d) 10A°
12. The genetically engineered products reduces blood pressure
a) Renin inhibitor b) Insulin c) Interferon d) Interleukin
13. Biodegradable plastic is obtained from
a) Arabidopsis thaliana **b) Mouse eared cress** c) Avena sativa d) Glycine max
14. The bacterium capable of metabolizing hydrocarbons more efficiently and grow rapidly is
a) Pseudomonas putida b) Bacillus thuringiensis c) Streptomyces hygroscopicus d) Bacillus Subtilis

Section - B

7 X 3 = 21

Note : Answer any seven questions.

15. Write the aims of taxonomy. **1**
16. Write three inflorescence of the family Solanaceae with examples. **18**
17. Write three differences between Musa and Ravenala.
18. Write the special features of sieve tube. **41**
19. Draw and label the parts of xylem vessel. **39**
20. Draw and label the parts of lamp brush chromosome. **63**
21. Define 'Gene'. **64**
22. What is Totipotency? **74**
23. What is splicing? **86**
24. What is Antisense RNA? **92**

Sections - C

Note : (i) Answer any four questions including question no. 25 which is Compulsory. (ii) Draw Diagrams wherever necessary.

4 x 5 = 20

25. Explain the phylogenetic system of classification. **2**
26. Describe the female flower of *Ricinus communis*. **25**
27. What is the role of transgenic plants in food industry? **92**
28. Write the significance of ploidy. **71**
29. Explain the different types of chromosomes based on the position of centromere. **62**
30. Tabulate the differences between vascular bundles of Dicot stem and monocot stem. **56 - 7-11 part**
31. Explain the types of sclerids. **37**

Section D

2x10=20

- Note : (i) Answer any two questions. (ii) Draw Diagrams wherever necessary.**
32. a) Write the demerits of Bentham and Hooker's system of classification. **71**
b) Describe the economic importance of family Solanaccae. **21**
 33. What is herbarium? Explain the procedure to prepare the herbarium. **5**
 34. Describe the internal structure of monocot root. **40**
 35. Describe the DNA recombinant technology. **85**

Section -A Note - i) Answer all the questions.

ii) Choose and write the correct answer.

16x1 = 16

1. In food grains starch is available as
a) Pectin b) Amylopectin c) Pectin and amylopectin d) Glycogen
2. Pellagra is the deficiency disease of
a) Pyridoxine b) Niacin c) Biotin d) Cyano cobalamine
3. Name the bacteria causing ulcer.
a) Helicobacter pylori b) Lactobacillus c) Mycobacterium tuberculae d) Streptococcus
4. Plasmaphoresis is a remedial measure to cure
a) Poliomyelitis b) Myasthenia gravis c) Pneumonia d) Atherosclerosis
5. The first human heart transplant was performed in the year
a) 1959 b) 1958 c) 1967 d) 1966
6. Name the amino acid present in the hormone thyroxine
a) Tyrosine b) Threonine c) Alanine d) Tyrosine and Tryptophan
7. Net filtration force which is responsible for the filtration in glomerulus is
a) 25mm Hg b) 50mm Hg c) 75mm Hg d) 80mm Hg
8. The secondary egg membrane (outer membrane) of human ovum is
a) Zono pellucida b) Corona radiata c) Theca d) Vitelline membrane
9. The type of symmetry present in blue tonged virus is
a) Isohedral symmetry b) Helical surface symmetry c) Complex symmetry d) Asymmetry
10. Gingivitis is caused by
a) Trichomonads b) Leishmania donovani c) Lesihmania tropica d) Giardia intestinalis
11. Which of the following is bacterial antibiotic?
a) Ampicillin b) Griseofulvin c) Cycloguanosine d) Imidazole
12. Which of the following is not the symptom of AIDS?
a) Oropharyngeal candidiasis b) Kaposi sarcoma c) Loss of memory and intelligence d) Septicemia
13. The responsibility of cytotoxic lymphocytes is regulation of
a) Cell mediated immunity only b) Humoral Immunity only c) Both cell mediated and Humoral Immunity d) Phagocytosis
14. Largest lymphoid organ is
a) Thymus b) Spleen c) Bursa of fabricius d) Bone marrow
15. Graft between syngenic individuals are
a) Autograft b) Isograft c) Allograft d) Xenograft
16. Hyper variability regions are present in
a) Heavy chain only b) Light chain only c) Both Heavy and Light chains d) Dark chain

8x3=24

Section -B Note - Answer any eight questions.

17. What is Reissner's membrane?
18. What is Herring - Breuer reflex?
19. What is menstrual cycle?
20. Define BMI.
21. What is Retinopathy? Write about their types.
22. Write any three causes for diabetes.
23. What is transduction? Write about their types.
24. What is Pathogenecity?
25. Enumerate the methods of diagnosis of AIDS.
26. State the functions of spleen.
27. Distinguish between Immunogen and Antigen.
28. Write about autoimmune disease.

Section -C

Note - Answer any three Questions including Question no.31 Which is compulsory.

3x5 = 15

29. Explain the structure of HIV.
30. Write about
a) Plague b) Hepatitis B
31. Describe Lymph nodes with diagram.
32. Describe the mechanism of Reflex action.
33. Describe the process of ovulation and the fate of empty graffian follicle.

2x10 = 20

Section -D Note - Answer any two questions.

34. Write an essay on muscle contraction.
 35. Describe the functioning of Male reproductive system.
 36. What is diabetes mellitus? Write about their types, symptoms and preventive measures?
 37. Give an account of Bone fracture and the healing mechanism of bone fracture.
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