

CODE NO: 00000

T.I. MATRICULATION HIGHER SECONDARY SCHOOL, AMBATTUR
Half Yearly Examination 2018

MARKS:70

ROLL NO :

PART-A

TIME 2hr 30 min

Scoring key

I Choose the correct answer 8x1=8

1. The replication of DNA in E.coli is completed in
a) 20 minutes **b) 40 minutes** c) 50 minutes d) 60 minutes
2. A synthetic auxin which is used to eradicate weeds in the field is
a) ABA b) Acetic acid
c) IAA **d) 2,4 dichlorophenoxy acetic acid**
3. In tomato, the production of _____ is inhibited by using antisense genes, for the tomato to remain dormant fresh
a) Delta endotoxin b) hydrocarbon
c) Polygalacturonase d) Restriction endonuclease
4. Which of the following chromosome (s) is/are called supernumerary?
a) B- chromosome b) Sex chromosome
c) Double minutes chromosome d) Lampbrush chromosome
(i) (a) and (b) **(ii) only(a)** (iii) (a) and(d) (iv) (a)and (c)
5. If phloem occurs on both the outer and inner sides of xylem , the vascular bundle is termed
a)collateral **b) bicollateral** c) concentric d) amphivasal
6. In Solanaceae the gynoecium is
a) inferior, syncarpous b) superior, unilocular
c) bicarpellary, syncarpous d) inferior bilocular
7. The current system of International Code of Botanical Nomenclature was adopted in the year
a) 1878 **b) 1978** c) 1968 d) 1976
8. In C₂ cycle ,hydroxy pyruvic acid is reduced by _____ to form glyceric acid.
a) NADH₂ b) NAD c)NADPH₂ d) NADP

II Answer four of the following questions . 4x2=8

9. What is inoculation?
Transfer of explants to culture medium(1) Carried out under aseptic conditions.(1)
10. What are lateral meristems?
Meristems present along the longitudinal axis of stem and root (1)
Eg. Vascular cambium, cork cambium(1)
11. Differentiate between the androecium of Malvaceae and Solanaceae.
Malvaceae-numerous stamens, monadelphous. Monothealous anthers(1)
Solanaceae- 5 stamens, epipetalous. Anthers dithealous.(1)
12. State the conditions under which non-cyclic photophosphorylation occurs.
i) only PSI remains active (1)
(ii) requirement of ATP is more(0.5) (iii) non availability of NADP +(0.5)

13. Explain enolation with an example.

Removal of water(1) A molecule of 2-phosphoglyceric acid is dehydrated to a molecule of 2-PEP by enolase during Glycolysis(1)

14. What are isoacceptor tRNAs?

Each t-RNA is specific for a particular amino acid(1). There are 4 or 5 t- RNAs specific for a particular amino acid. These are called isoacceptor RNAs.

III. Answer three of the following questions. Draw diagrams wherever necessary. 3x3=9

Q. No. 18 is compulsory

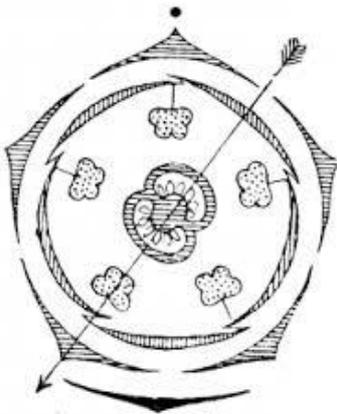
15. Write the binomial name of Keezhanelli and Amukkara and their economic importance.

Keezhanelli- Phyllanthus amarus- Shoot system –treat jaundice(1.5)

Amukkara- Withania somnifera-roots and leaves-treat nervous disorder and as tonic(1.5)

16. Draw the floral diagram of Datura metal and write the floral formula

$\text{Br, Ebrl, O, K}_{(5), \overline{\text{C}}_{(5)}, \underline{\text{A}}_5, \underline{\text{G}}_{(2)}$



17. Write a note on genetic map and its significance.

Diagrammatic representation of location and arrangement of genes and relative distance between linked genes of a chromosome.(1)

To determine location and arrangement of linked genes(1)

To predict the results of dihybrid and trihybrid crosses.(1)

18. Differentiate between Diploidy and Hypoploidy.

Diploidy is formed by union of 2 gametes during fertilization. The variation in chromosome number is due to increase in full set of chromosomes.-Euploidy(1.5)

Hypoploidy-decrease in one or two chromosomes from the diploid set. The variation involves within the diploid set –Aneuploidy(1.5)

19. List any three therapeutic drugs manufactured through recombinant DNA and their functions. **1 mark for each**

S. NO	Products	Functions
1.	Human Growth hormone	Promotes growth in children
2.	Interferon	Helps cells resist viruses
3.	Interleukin	Stimulates the proliferation of WBCs
4.	Insulin	Treats diabetes
5.	Renin inhibitors	Decreases blood pressure

IV. Answer two of the following questions .

2x5=10

20. Diagrammatically represent Krebs's cycle.

9Steps-(3),enzymes& reaction(2)

(or)

Give an account on Xylem tissues.

4Components of xylem and description (3) ,diagrams(2)

21. Describe the inflorescence of *Musa paradisiaca* in technical terms. Draw floral diagram and write floral formula of bisexual flower.

Description of inflorescence-(3), Floral diagram(1),floral formula(1)

(or)

Write an essay on transgenic plants.

Definition of transgenic plants with examples(1), benefits- herbicide resistance and resistance to insects and pests to be explained with examples(3),any one practical application (1)
