

INTERNATIONAL INDIAN SCHOOL DAMMAM

II TERMINAL EXAMINATION 2014-2015

Biology (Theory)-Class XII

SET A

Time: 3 hours

Max Marks: 70

General instructions:

- (i) All the questions are compulsory.
- (ii) The question paper consists of five sections A, B, C, D and E.
Section A contains 5 questions of 1 mark each. Section B is of 5 questions of 2 marks each. Section C has 12 questions of 3 marks each, section D has one value based question of 4 marks whereas Section E is of 3 questions of 5 marks each.
- (iii) There is no overall choice .However an internal choice has been provided in one question of 2 marks ,one question of 3 marks and all the three questions of 5 marks weightage .A student has to attempt only one of the alternative in such questions .
- (iv) Wherever necessary, the diagrams drawn should be neat and properly labeled.

SECTION A

- 1. Name the mode of reproduction in hydra and draw the diagram showing it ?1
- 2. Match the following?1
 - a) Proteases and pectinases I)Clostridium
 - b) Butyric acid II) Tricoderma
 - c) Baker's yeast III) clear bottled juices
 - d) Cyclosporine A iv) wine and brandy
- 3. Expand and elaborate ZIFT?1
- 4. Name the causative agent of the pneumonia ?Mention any two of its symptoms?1
- 5. Name two enzymes which are used for releasing the macromolecule DNA from the cell envelope?1

SECTION B

- 6. Where does the triple fusion takes place in the flowering plants? Why is it called so ? what is its significance ?2
 - 7. Explain with the help of the cross how sons of the hemophilic father never suffer from this trait?2
 - 8. What is colostrum? How is milk production hormonally regulated in human female ?2
- Or**
- 8'. Define allergy? Name an antibody produced in response to allergens? List the common symptoms of allergy stating why are they produced?2
 - 9. Expand and explain the MOET?2

10. How is genetically engineered insulin prepared?2

SECTION C

11. Draw the replication fork? Explain the process of replication in eukaryotes?1+2

12. Tobacco plant is adversely damaged with infection from *Meloidogyne incognita* .

a) name and explain the strategy which is adopted to stop such infestation

b) name the vector used for introducing the nematode specific gene in the tobacco plant . 2+1

13. EXPLAIN:

a) autoimmune disorder

b) carcinogen

c) name an opioid drug and its source 1+1+1

14. Name and explain the technique used in biotechnology to separate the fragments of DNA ?3

15. Mention and describe the permanent methods of sterilization in human male and female ?3

Or

15'. Explain in detail the experiment which explained the transforming principle? Name the scientist who gave the transforming principle?3

16. What is spermatogenesis ? Give a brief account of it.3

17. What is pleiotropy? Explain it with the help of the example?1+2

18. Differentiate between the homologous and analogous organs ? Give at least one example for each?3

19. What is biofortification? Explain in detail.3

20. What is biogas? Explain the biogas production with the help of the diagram of bio gas plant?3

21. Explain the structural genes in the lac –operon of the *E. coli*? Draw the diagram of the lac –operon in the presence of the inducer?1+2

22. Draw a well labelled diagram of the L.S of anatropous ovule showing the structure of an embryo sac. 3

SECTION D

23. In a cleanup campaign Raja and his friends emptied the overhead tanks belonging to the flat owners who had gone on vacation to India . On their return flat owners complained to the building owner about the empty tanks .

Raja and his friends apologized to those people and explained why did they do it . people were happy and appreciated the boys.

- a) why do you think raja did it.
- b) Explain the values which raja showed .
- c) Explain in brief the life cycle of the plasmodium. 1+1+2

SECTION E

24. Write short notes on :

- a) Apomixes B)Artificial hybridization in unisexual and bisexual plants C)Parturition 1+2+2

OR

24'. State hardy –Weinberg principle. Explain factors which affect the hardy –weinberg equilibrium ?1+3

25. From a crime scene a very small amount of the blood sample of suspect was collected by the forensic experts.after a few days a person was arrested for the crime .the forensic experts wanted to be sure that the blood sample they have collected belonged to the same person.

- a) Name the technique which they will follow to confirm that blood sample belongs to the arrested person.
- b) Explain in detail the principle procedure and one more application of this techniques. 5

OR

25' Why is DNA a better genetic material than RNA? Explain the double helix model of the DNA with the help of the diagram indicating the position of the hydrogen and phosphodiester bond .Name the scientist who discovered the DNA?1+3+1

26. State the mendels law of independent assortment ?explain it with the help of the suitable cross . 5

OR

26'. Write short note on -

- a)Kleinfelters and turner syndrome
- b)Industrial melanism
- c)Miller –Urey experiment and its importance . 2+1.5+1.5
