

**Roll No. .... Name .....**

**Half Yearly Examination 2014-15 GF-7/100**

5P

**Biology**

**Time : 3 Hrs.**

**Class XI**

**M.M. : 70**

**General Instructions :**

- (1) *All question are compulsory.*
- (2) *The question paper consists of five sections A, B, C, D and E. Section A contains 5 question of 1 mark each. Section B is of 5 questions of 2 marks each. Section C has 12 questions of 3 marks each where as Section D is of 1 question of 4 marks each. Section E has 3 questions of 5 marks.*
- (3) *Wherever necessary, the diagrams drawn should be neat and properly labeled.*

**Section - (A)**

1. Name two alkaloids that are secondary metabolites. 1
2. What are kinetochores? What is their function? 1
3. Differentiate between G1 and G2 phases of interphase. 1
4. Rennin is a ..... secreted by ..... organ. 1
5. What is the role of secondary messenger in hormone action? 1



[ 2 ]

**Section - (B)**

6. What are mesosomes ? Give two of their functions. 2

**OR**

Where following can be found in an eukaryotic cell :

(a) Cristae (b) Thylakoid

(c) Cisterns (d) Ribosomes

7. What is cretinism? Give its any two causes. 2

8. Where does the cardiac impulse originate? How is it conducted to the rest of the chambers? 2

9. Name the different type of teeth and their number found in an adult human. 2

10. Answer the following in reference to DNA : 2

(a) The structure that hold the two-polynucleotide chains ? Peptide

(b) The structure that hold the two nucleotides. gly

(c) Name the nitrogenous base present in DNA but absent in RNA.

(d) Number of base pairs in one turn of helix.

**Section - (C)**

11. How is the butter in your food digested and absorbed in your body? 3

12. Draw a labeled diagram of a centriole as seen under an electronic microscope.

**OR**

Draw a neat labeled diagram to show the fluid mosaic model of cell membrane. 3

[ 3 ]

13. How does competitive inhibitor inhibits the activity of an enzyme? Explain with the example. 3

14. List the various classes of enzymes. 3

15. How many pairs of ribs are found in the humans? 12

How do you categorise these on the basis of their attachment? Also give numbers of each. 3 (3f 2f)

16. Give reasons for following : 3

(a) hearing be affected if the eustachian tubes are blocked.

(b) Image is most accurate at yellow spot.

(c) Low  $Na^+$  affects your nervous system.

17. Bring out the similarity and difference between vasopressin and oxytocin. 3

18. Name the full form of FSH. Name the gland that secretes it. How does it differ in its function in male and female? What stops its secretion in female? 3

19. Explain the bio-physical mechanism of muscle contraction by sliding filament theory. 3

20. What are the major transport mechanism for  $CO_2$ ? Explain. 3

21. What is cell cycle? Explain the events occurring in this cell cycle. 3

22. What is the name of the cytoplasm division in the end of mitosis? What are the differences in this process between animal and plant cells? 3



[ 4 ]

**Section - (D)**

23. While finalising an alliance between his son and Rita, Mr. Ram was curious to know what was Rita's blood group. Nobody was interested in their blood groups since their horoscopes matched. Mr. Ram was adamant in wanting to know the blood groups before finalising. The senior people got annoyed. Then Rita stood up and gave the reasons. Mr. Ram was happy and the marriage date was finalised.

- Mr. Ram's refusal to accept only horoscopes shows certain values. What are they?
- What effect on the foetus may be expected if the father has A<sup>+</sup> and the mother O<sup>+</sup> blood groups?
- What is the possible remedy in case of an Rh factor incompatibility between the foetus and mother's blood? 4

**Section - (E)**

- What are the heart sounds?
- When and how are these heart sounds produced?
- Why is right ventricular wall thinner than left ventricular wall?

**OR**

- Name the fluid in which the membranous labyrinth of the inner ear floats.

[ 5 ]

- Describe the arrangement and function of auditory ossicles in human ear.
  - What is blind spot? Why is it named so? 5
25. Name the stage of cell cycle at which the chromosomes morphology can be best studied. Describe the different types of chromosomes based on their positions of centromere along with the diagram.

**OR**

- What is a protein? Describe the different conformations in which proteins exist. 5
26. How nerve impulse is transmitted through non-myelinated nerve fibre? How nerve transmission in myelinated nerve fibre is different from non myelinated nerve fibre? 5

**OR**

- Name the group of nephron on the basis of their position in kidney? How are they different from each other? *nephrin, photonephron*
- Name the two kind of osmoregulatory problem fresh water animal faces. *osmotic*
- Mention two advantages of uricotelism in birds. *no water is required*