



Paper Contributor : SNEHA Tuition Classes

Time : 3:00 Hrs.

Max. Marks : 70

**General Instruction:**

The questions paper divided into four sections.

1. Section A : Q. No. 1 Contain Ten multiple choice type of questions carrying one mark each.  
Q. No. 2 Contain Eight very short answer type of questions carrying one mark each.
2. Section B : Q. No. 3 to Q. NO. 14 Contains Twelve Short answer type of questions carrying Two marks each.
3. Section C : Q. No. 15 to Q. No. 26 Contains Twelve short answer type of questions carrying Three marks each.
4. Section D : Q. No. 27 to Q. No. 31 Contains Four long answer type of questions carrying Four Marks each
5. Figures to the right indicate full marks.

**SECTION - A**
**Q.1 Select and write the correct answer**
**(10 Marks)**

- (i) Which of the following types require pollinator but result is genetically similar to autogamy?
  - a. Geitonogamy
  - b. Xenogamy
  - c. Apogamy
  - d. Cleistogamy
- (ii) In human female, the fertilized egg gets implanted in uterus .....
  - a. After about 7 days of fertilization
  - b. After about 30 days of fertilization
  - c. After about two months of fertilization
  - d. After about 3 weeks of fertilization
- (iii) Find the mis match pair :-
  - a. Down's syndrome =  $44 + XY$
  - b. Turner's syndrome =  $44 + XO$
  - c. Klinefelter syndrome =  $44 + XXY$
  - d. Super female =  $44 + XXX$
- (iv) The molecular knives of DNA are .....
  - a. Ligases
  - b. Polymerases
  - c. Endonucleases
  - d. Transcriptase
- (v) The Cranial capacity of Nanderthal man was
  - a. 600 cc
  - b. 940 cc
  - c. 1400 cc
  - d. 1600 cc
- vi) In soil, water available for absorption by root is .....
  - a. gravitaional water
  - b. capillary water
  - c. hygrosopic water
  - d. combined water
- (vii) Abscisic acid controls .....
  - a. cell division
  - b. leaf fall and dormancy
  - c. shoot elongation
  - d. cell elongation and wall formation

- (viii) Opening of inferior vena cava is guarded by \_\_\_\_\_.
- a. bicuspid valve                                      b. tricuspid valve  
 c. Eustachian valve                                    d. Thebesian valve

- (ix) \_\_\_\_\_ is a neurotransmitter.
- a. ADH                      b. Acetyl CoA                      c. Acetyl choline                      d. Inositol

- (x) An antibody is .....
- a. molecule that binds specifically an antigen  
 b. WBC which invades bacteria  
 c. secretion of mammalian RBC  
 d. cellular component of blood

**Q.2 Answer the following (8 Mark)**

- (i) What is the microbial source of enzyme Invertase?  
 (ii) Name the vector which is used in production of human insulin through recombinant DNA technology.  
 (iii) Define the terms Commensalism.  
 (iv) Name any 2 modern techniques of protection of endangered species.  
 (v) What is crossing over?  
 (vi) Define term- codon and codogen.  
 (vii) write the name of enzyme secreted by pineal gland.  
 (viii) What is the source of cocaine?

**SECTION - B**

**Attempt Any Eight (16 Mark)**

- Q.3 Name the infective stage of Plasmodium. Give any two symptoms of malaria.  
 Q.4 Match the organism with the type of nervous system found in them.

1. Neurons	a. Earthworm
2. Ladder type	b. Hydra
3. Ganglion	c. Flatworm
4. Nerve net	d. Human

- Q.5 Write a note on Genetic drift.  
 Q.6 Comment on any two mechanical contraceptive methods.  
 Q.7 Define and explain terms. i. Biopiracy ii. Biopatent.  
 Q.8 What is role of gibberellin ?  
 Q.9 Draw structure of root hair.

- Q.10 Define Population and Community.  
Q.11 Write the properties of hormones.  
Q.12 Explain the mechanism of sex determination in human beings.  
Q.13 Explain the term : i) Natality ii) Mortality  
Q.14 Enlist the any four characteristics of genetic code.

**SECTION – C**

**Attempt Any Eight**

**(24 marks)**

- Q 15 .Explain blood clotting in short.  
Q 16. Write a note on applications of DNA finger printing.  
Q 17. Why law of segregation is also called the law of purity of gametes?  
Q 18. Describe three devices by which cross pollination is encouraged in Angiosperms by avoiding self pollination.  
Q 19. What is biogas? Write in brief about the production process.  
Q 20. Give the steps in PCR or polymerase chain reaction with suitable diagrams.  
Q 21. Define blood pressure. Describe systolic and diastolic blood pressure.  
Q 22. Enlist the names, type and function of III,VII and IX pairs of cranial nerves.  
Q 23. Describe external structure of heart.  
Q 24. Draw the neat labeled diagram of T.S. of testis.  
Q 25. Explain the term – i) Gene ii) Alleles iii)pureline  
Q 26. Describe the different type of immunity.

**SECTION – D**

**Attempt any Three**

**(12 Mark)**

- Q 27. Define back cross and test cross and explain significance of test cross with diagram.  
Q 28. Describe the process of double fertilization.  
Q 29. Explain the causes of biodiversity losses.  
Q 30. Define oogenesis. Explain the phases of oogenesis.  
Q 31. Describe the 'Lac-operon'.

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