



Marks : 70

Time : 8.15 am to 11.15 am

- Note- 1) All sections (A, B, C, D) are compulsory.
2) Figures to the right indicate full marks.
3) Draw neat, labelled diagrams wherever necessary.

Q.1 Select and rewrite the most appropriate answer from the given alternatives from each sub-questions. (10)

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viii) _____ protein is produced by r-DNA technology to treat Asthama.

- a) Erythropoietin
- b) Relaxin
- c) Interleukin receptor
- d) Insulin

ix) Ti plasmid is present in _____.

- a) A.tumefaciens
- b) R.meliloti
- c) E.coli
- d) B.thuringiensis

x) CFCs are emitted by _____.

- a) Diesel Trucks
- b) Air conditioners
- c) Rice fields
- d) Ice caps

Q.2 Answer in one sentence.

(8)

- i) Which period is known as the “Age of Reptiles”?
- ii) What is Ascent of sap?
- iii) Define “Vernalization”.
- iv) Name the first animal group showing true, simple nervous system.
- v) What are endangered species?
- vi) Name the bacteria containing “Nif” genes.
- vii) What are “Flavr Savr” Tomatoes?
- viii) Which poison is produced by calotropis?

Section B

Answer the following in short. (Any 8)

(16)

- Q.3** Sketch and label “Blastocyst”
- Q.4** Explain the terms- a) Factor b) Pure line
- Q.5** Write a note on “IVF”
- Q.6** Explain Non-ambiguity and degeneracy of genetic code.
- Q.7** “Transpiration is a necessary evil”. Explain.
- Q.8** Match the pairs

A	B
1) Auxins	a) Stress hormone
2) Gibberellins	b) Ripening of fruits
3) Ethylene	c) Stem elongation
4) ABA	d) Apical dominance

- Q.9** What represents i) P- wave and T- wave in ECG?
- Q.10** Sketch and label “Pyramid of Energy”

Q.11 Write a note on “Habitat Loss” and “Fragmentation”

Q.12 What is Ecosystem? Give it's classification.

Q.13 Match the Pairs :

A	B
1) <i>Apis dorsata</i>	a) Inland fishery
2) <i>Cirrhina mrigala</i>	b) Lac insect
3) <i>Bombyx mori</i>	c) Wild bee
4) <i>Trachardia lacca</i>	d) Mulberry silk

Q.14 Draw a neat labelled diagrams of “T. S. of Vein”

Section C

Answer the following. (Any 8)

(24)

Q.15 Explain i) Cuffing ii) Budding in plants.

Q.16 Draw a neat, labelled diagram of T. S. of Testis.

Q.17 Give the example of i) Autosomal dominant trait
 ii) Autosomal recessive trait
 iii) X - Y linked trait

Q.18 Write a note on Short Day plants.

Q.19 Define - i) Osmosis ii) Imbibition iii) Plasmolysis

Q.20 Sketch and label “Structure of Antibody”

Q.21 Explain - i) Atrial Systole ii) Ventricular Systole iii) Joint Diastole

Q.22 Explain different types of granulocytes of WBCs.

Q.23 Fill in the following blanks :

Crop	Variety	Pest
1) Wheat	_____	Leaf and striperust
2) _____	Pusa Gaurav	Aphids
3) Okra	_____	Shoot and Fruit borer

Q.24 Give the example of the following interactions.

1) Predation 2) Brood parasitism 3) Competition

Q.25 Give the functions controlled by -

1) Parietal lobe 2) Temporal lobe 3) Occipital lobe

Q.26 Name the hormone secreted by -

1) Pineal gland 2) Hypothalamus 3) Placenta

Section D

Answer the following in detail. (Any 3)

(12)

- Q.27** What is xenogamy? List the adaptations seen in anemophilous flower.
- Q.28** Give the steps involved in the process of Translation in protein synthesis with the help of diagrams.
- Q.29** What is Speciation? Explain Allopatric and Sympatric speciations.
- Q.30** Draw a neat labelled diagram of "Formation of Spinal nerve"
- Q.31** Give the steps in PCR with suitable diagrams.

