

General Instructions :-

- Section-A** : Q.No. 1 contains Ten multiple choice type of questions carrying one mark each.
Q.No.2 contains Eight very short answers type of questions carrying one mark each.
- Section-B** : Q.No. 3 to Q.No. 14 are short answer type of questions carrying two marks each.
- Section-C** : Q.No.15 to Q.No.26 are short answer type of questions carrying three marks each.
- Section-D** : Q.No.27 to Q.No.31 are long answer type of questions carrying four marks each.

Section - A

Q.1 Select and write the correct answer for the following multiple choice type of questions. **10**

- i) Pollen grain is a _____
 - a) megaspore
 - b) microspore
 - c) microsporophyll
 - d) microsporangium
- ii) Ovulation occurs under the influence of _____ hormone.
 - a) FSH
 - b) LH
 - c) Progesterone
 - d) Estrogen
- iii) Karyotype of Klinefelter's syndrome is _____
 - a) 44 + XXY
 - b) 44 + XO
 - c) 44 + XYY
 - d) 45 + XX
- iv) Which one of the following is not a transcription unit in DNA ?
 - a) A terminator
 - b) A promoter
 - c) The inducer
 - d) The structural gene
- v) Vital capacity of lungs is _____
 - a) TV + IRV
 - b) TV + ERV
 - c) IRV + ERV
 - d) TV + IRV + ERV
- vi) Most of the carbon dioxide produced in the tissues is transported to the lungs as _____
 - a) carbonates
 - b) bicarbonates
 - c) dissolved in the blood
 - d) attached to haemoglobin
- vii) From where does the aorta originate ?
 - a) Right ventricle
 - b) Left auricle
 - c) Right auricle
 - d) Left ventricle
- viii) The supporting cells that produce myelin sheath in the PNS are _____
 - a) Ependymal cells
 - b) Satellite cells
 - c) Astrocytes
 - d) Schwann cells
- ix) Logistic growth curve of a population is a _____
 - a) straight line curve
 - b) sigmoid curve
 - c) elliptical curve
 - d) parabolic curve

- Q.15** Define :- a) Parthenocarpy b) Apomixis c) Polyembryony
Q.16 Distinguished between oogenesis and spermatogenesis.
Q.17 Explain sex determination in birds.

Q.18 Match the Columns.

- | a) | Column I | Column II |
|------|------------------|-----------|
| i) | Acrocentric | a) L |
| ii) | Metacentric | b) J |
| iii) | Telocentric | c) V |
| iv) | Submetacentric | d) i |
| b) | What is linkage. | |

Q.19 Sketch and label conducting system of heart.

Q.20 Write a note on Placenta.

Q.21 Write an account on External ear.

Q.22 Describe Hershey-chase experiment.

Q.23 Distinguish between Habitat and Niche.

Q.24 Mention the steps involved in gene cloning.

Q.25 Describe the T.S of spinal cord.

Q.26 What is Biopiracy ? Give two examples of Biopiracy.

Section - D

Attempt any three of the following questions.

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Q.27 Explain development of dicot embryo.

Q.28 Describe the structure of blastula with the help of neat labelled diagram.

Q.29 What is blood pressure? How is it measured? Explain factors affecting blood pressure.

Q.30 Write a note on Functional areas of cerebrum.

Q.31 Describe in brief the operon concept.
