

Sub: Biology

Standard: 12th (Science)

Date: 20 /11 /18

Time : 3 Hours

Total Marks: 70

General Instructions:

- 1) All questions are compulsory.
- 2) **Section A** contains Q. No. 1 to 4 of Multiple Choice Questions (MCQ) carrying one mark each. Q. No. 5 to 8 are very Short Answer (VSA) type of questions carrying one mark each.
- 3) **Section B** contains Q. No. 9 to 18 of Short Answer (SA) type of questions carrying two marks each. Internal choice is provided to only one question.
- 4) **Section C** contains Q. NO. 19 to 27 of Short Answer (SA) type of questions carrying three marks each. Internal choice is provided to only one question.
- 5) **Section D** contains Q.No.28 to 30 of Long Answer (LA) type of questions carrying five marks each. Internal choice is provided to each question.

SECTION-A

Write the most appropriate answer from the given options:

- Q.1 The genetic marker used as key factor in DNA fingerprinting is _____
(a) VNTRs (b) Exons (c) Introns (d) DNA probes
- Q.2 Cry genes are present in _____
(a) *Agrobacterium tumifaciens* (b) *Bacillus thuringiensis*
(c) *Rhizobium* species (d) *Escherichia coli*
- Q.3 When the level of urea in the blood rises to above 0.05%, then this condition is known as _____
(a) uremia (b) glycosuria (c) gout (d) nephritis
- Q.4 Which epoch showed mammals at height of evolution?
(a) Eocene (b) Oligocene (c) Miocene (d) Pliocene

Answer the following questions in one sentence each:

Q.5 Which amino acid is specified by start codon UGA?

Q.6 Give the genotype of Klienfelter's syndrome.

Q.7 Which WBC is called scavenger? Why?

Q.8 What is the use of tissue plasminogen activator?

SECTION-B

Answer the following questions in short:

Q.9 What is respiratory quotient (R.Q)? Why R.Q in anaerobic respiration is infinite?

OR

Write a short note on fermentation.

Q.10 Give the characteristics of Anemophilous plant.

Q.11 Write a short note on Archaeopteryx.

Q.12 What is the economic important of Honey and wax?

Q.13 Sketch and label Pituitary gland.

Q.14 Explain the mechanism of sex determination in Human being.

Q.15 Explain the ill effects of opioids and cannabinoids on health.

Q.16 Write a note on Meninges.

Q.17 Give the meanings of transformation transfection and transduction.

Q.18 Describe microbes as source of food.

SECTION-C

Answer the following questions:

Q.19 What is meant by ecological niche? What are the different types of niches?

Q.20 Give an account of Griffith's experiment.

Q.21 Distinguish between Cyclic and Non cyclic photophosphorylation.

OR

Give the schematic representation of EMP pathway.

- Q.22 Describe autogamy and allogamy.
- Q.23 Describe the morphology of thyroid gland.
- Q.24 What are the three modes of excretion? Distinguish between any two of them.
- Q.25 Write a short note on ECG.
- Q.26 Describe any three steps of Tissue culture.
- Q.27 What are the different types of interactions seen among the animal species?

SECTION-D

Answer the following questions:

- Q.28 Describe Histology of Testis in Detail.

OR

Describe Properties of Hormones and Describe any 4 Pituitary Hormones.

- Q.29 Give an account of HSK pathway.

OR

What is Calvin's cycle? Describe it in brief.

- Q.30 Explain back cross with its significance. What is the difference between back cross and test cross?

OR

A homozygous tall pea plant which is also homozygous for purple color of the flower is crossed with a dwarf pea plant bearing white flowers. Find out the proportion of offspring produced in the F_2 generation of this cross by checker board method.