

**SECOND PUC PREPARATORY EXAMINATION - 2020**

Time : 3 Hrs. 15 Mins.

BIOLOGY (36)

Max Marks : 70

No. of Pages : 02

Total No. of Ques. : 37

**Instructions :**

- i) This question paper consist of four parts A, B, C and D. Part D consist of section I & II.
- ii) All the parts are compulsory
- iii) Draw diagrams wherever necessary, unlabelled diagram or illustrations do not attract any marks.

**PART - A****I Answer the following questions in one word or in one sentence: 10x1=10**

- 1) What is the major disadvantage of external fertilisation ?
- 2) Name the reproductive cycle occurs in non-primates ?
- 3) The family pedigree of Queen Victoria shows a number of haemophilic descendents, give reason.
- 4) What is heterochromatin ?
- 5) Why do DNA fragments move towards the anode in gel electrophoresis ?
- 6) Name the interaction between a whale and the barnacles growing on its back.
- 7) In which disease appearance of dry, scaly lesions on skin, nails and scalp.
- 8) Find the viruses, which are species - specific, used as biological control of pests.
- 9) Pyramid of energy is always upright, can never be inverted. Justify with one reason.
- 10) What is Eutrophication ?

**PART - B****II Answer any FIVE of the following questions in about 3 to 5 sentences each: 5x2=10**

- 11) What is Infertility ? Suggest a suitable reproductive technique to correct the problem of a male partner who is having low sperm counts in the ejaculation.
- 12) Draw a neat labelled diagram of schematic structure of a transcriptional unit.
- 13) Human placenta acts as an endocrine tissue, justify the statement.
- 14) List any two adaptive features evolved in parasites enabling them to live successfully on their host.
- 15) Draw a neat labelled diagram of an antibody molecule.
- 16) Differentiate the Benign and malignant tumors.
- 17) Name the microbes that help in production of the following products commercially
  - a) Statin
  - b) Citric acid
- 18) Assign the plant name ;
  - (i) Which produce highly poisonous cardiac glycosides as defence against grazers.
  - (ii) Which employs "sexual deceit" to get pollination done by a special bee.

**PART - C****III Answer any FIVE of the following questions in about 42 to 80 words each: 5x3=15**

- 19) Name the vegetative propagules of the following plants (a) Ginger (b) Bryophyllum (c) Agave.
- 20) Draw a neat labelled diagram of T.S. of young anther.
- 21) Explain three Natural methods of contraception.
- 22) Explain the sex determination in Honey Bee.
- 23) Write the role of (a) Repressor (b)  $\beta$ -galactosidase (c) Permease in lac-operon.
- 24) Write the scientific names of plants from which the following drugs are obtained.
  - (a) Opioids
  - (b) Cannabinoids
  - (c) Coca alkaloids
- 25) Draw a neat labelled diagram of a typical biogas plant.
- 26) List any three important components of poultry farm management.

