

M – 2018

Subject Code : 36 (NS)

0998244

BIOLOGY

(Kannada and English Versions)

Time : 3 Hours 15 Minutes]

[Total No. of questions : 37]

[Max. Marks : 70

(English Version)

- Instructions :** 1. *This question paper consists of four Parts – A, B, C and D. Part – D consists of two Sections. Section – I and Section – II.*
2. *All the Parts are compulsory.*
3. *Draw diagrams wherever necessary. Unlabelled diagrams or illustrations do not attract any marks.*

PART – A

Answer the following questions in **one** word or **one** sentence **each** :

(10 × 1 = 10)

- 1) What is implantation?
- 2) Write the restriction site of EcoRI enzyme.
- 3) Define 'Totipotency'.
- 4) Mention the role of Methanobacterium in rumen of cattle.
- 5) What is Foetal Ejection Reflux?
- 6) Define 'Saltation'.
- 7) Name the type of antibodies produced during allergy.
- 8) What are Eurythermal organisms?
- 9) Define Biomagnification.
- 10) Write the name of toxic substance responsible for fever and chill in Malaria.

**PART – B**

Answer **any five** of the following questions in **3 to 5** sentences **each**, wherever applicable : (5 × 2 = 10)

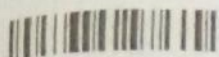
- 11) What are homogametes and heterogametes?
- 12) Mention any two examples of evolution by anthropogenic action.
- 13) Distinguish between homozygous and heterozygous plants.
- 14) What is Innate Immunity? Mention any two types of innate immunity barriers.
- 15) Which are the Important components of Poultry Farm Management?
- 16) Write the methods to introduce alien DNA into Host cells.
- 17) Define Endemism. Name any two regions of accelerated habitat loss in India.
- 18) Invasion of alien animal species eliminates the native animal species – Give two examples.

PART – C

Answer **any five** of the following questions in about **40 to 80** words **each**, wherever applicable : (5 × 3 = 15)

- 19) Mention the vegetative propagules of the following plants :

- | | |
|-------------------|-----|
| a) Water Hyacinth | (1) |
| b) Agave | (1) |
| c) Banana | (1) |



- 20) Draw a neat labelled diagram of T.S. of young Anther.
- 21) Describe Haplodiploid sex determination system in Honey Bees.
- 22) State Hardy-Weinberg principle of genetic equilibrium. Write any four factors affecting the equilibrium.
- 23) Write a short note on ecosystem services.
- 24) Sketch the diagrammatic representation of the Replication of Retrovirus inside an animal cell.
- 25) What is Ecological succession? How Hydrarch succession is different from Xerarch succession?
- 26) Draw a neat labelled diagram of plasmid pBR322.

PART – D

SECTION – I

Answer **any four** of the following questions in about **200 to 250** words **each**, wherever applicable : **(4 × 5 = 20)**

- 27) Draw and describe the structure of a matured embryo sac of angiosperms.
- 28) Draw a neat labelled, diagrammatic sectional view of female reproductive system.
- 29) Explain the inheritance of one gene with reference to stem height of Garden Pea plant.
- 30) a) What are the features of an ideal contraceptive? **(2)**
b) Mention the natural methods of contraception. **(3)**



31) Explain the following terms :

- a) Inbreeding depression (1)
- b) Inter specific hybridisation (1)
- c) Biofortification (1)
- d) Micropropagation (1)
- e) Somaclones (1)

32) Explain the regulation of Lac operon in absence and presence of Lactose as an Inducer.

SECTION – II

Answer **any three** of the following questions in about **200 to 250** words **each**, wherever applicable :
(3 × 5 = 15)

33) Oswald Avery and others have continued Griffith's transforming principle to prove DNA as genetic material – Substantiate.

34) Describe the role of Microbes in sewage treatment plant.

35) One of the applications of biotechnology is to get pest resistant plants – Justify the statement with reference to Bt. cotton.

36) a) What are Ectoparasites and Endoparasites? (2)

b) List any three parasitic adaptations in animals. (3)

37) Write a note on the following :

a) Radio active wastes (3)

b) Joint forest management. (2)
