

( ENGLISH VERSION )

1. Answer the following questions in short ( Alternatives are to be noted ):

2 × 5 = 10

(i) What is Geitonogamy ? Give example. 1 + 1

**OR**

What do you mean by reproductive health ? 2

(ii) State how sex is determined in birds. 2

**OR**

What are the different types of RNA ? 2

(iii) Write down the full forms of HIV and AIDS. 1 + 1

**OR**

What do you mean by vaccination ? 2

(iv) What is Endonuclease ? What do you mean by Restriction site ? 1 + 1

**OR**

What is Genetically Modified Organism ? Define cloning vector. 1 + 1

(v) Define ex-situ conservation. Give one example. 1 + 1

**OR**

State the importances of biodiversity. 2

2. Answer the following questions ( Alternatives are to be noted ) : 3 × 9 = 27

(i) What is IUD ? By which surgical methods permanent contraception is done in male and female human body ? 1 + 2

**OR**

Mention the secondary sex characteristics of human female. 3

(ii) What is Biopiracy ? Give one example. 2 + 1

**OR**

What do you mean by 'c-DNA library' ? Mention any two advantages of PCR technique. 1 + 2

- (iii) Describe the essential steps in Genetic Engineering. 3

**OR**

What do you mean by Gene Therapy ? Mention the significance of Human Insulin. 2 + 1

- (iv) Mention two symptoms and chromosomal abnormality of Klinefelter's syndrome. 2 + 1

**OR**

What do you mean by chromosomal theory of inheritance ? What is Barr body ? 2 + 1

- (v) Write down the biomolecular evidences of evolution. 3

**OR**

Which type of evolution is indicated by homologous organs ? Briefly describe Miller's experiment in support of biochemical origin of life. 1 + 2

- (vi) Write down the scientific name of causal organism of each of the following diseases :

Ascariasis, Typhoid, Ringworm. 1 + 1 + 1

**OR**

Mention the mode of transmission and name of causative agent of Filariasis. 2 + 1

- (vii) What is carcinogen ? How can you prevent the occurrence of cancer ? 1 + 2

**OR**

Draw and describe the structure of a typical antibody. 3

- (viii) Mention the use of any three bacteria in household food processing. 3

**OR**

Mention the names of one bacteria each responsible for energy production, control of pathogen and industrial production. 1 + 1 + 1

(ix) What do you mean by genetic, species and ecological biodiversity ?

1 + 1 + 1

**OR**

What is Red Data Book ? Mention its significance.

1 + 2

3. Answer the following questions ( Alternatives are to be noted ) :  $5 \times 3 = 15$

(i) Write any three differences between anemophilous and entomophilous flower. What is polyembryony ? Give example.

3 + 1 + 1

**OR**

Describe in brief the male reproductive system of human with labelled diagram.

2 + 3

(ii) Describe xerophytic adaptations in plants. Presence of patagia represents which type of adaptation ?

4 + 1

**OR**

Mention the sources of air pollution and describe briefly its ill effects on human health.

2 + 3

(iii) Describe the structure of DNA in brief. What do you mean by Genetic Code ?

3 + 2

**OR**

What is Linkage ? What do you mean by Sex Linked Inheritance ? Give example.

2 + 2 + 1