

## Biology Sample paper-1

### Unit-Biology and human Welfare (PYQs)

**Max. Marks 35**

**Time allowed: 2 hours**

#### General Instructions:

- i) All questions are compulsory.
- ii) The question paper has three sections and 13 questions. All questions are compulsory.
- iii) Section–A has 6 questions of 2 marks each; Section–B has 6 questions of 3 marks each; and Section–C has a case-based question of 5 marks.
- iv) There is no overall choice. However, internal choices have been provided in some questions. A student has to attempt only one of the alternatives in such questions.
- v) Wherever necessary, neat and properly labelled diagrams should be drawn.

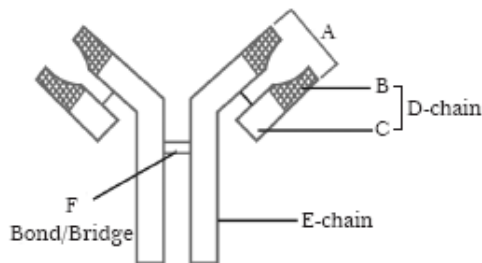
#### Section-A

1. Identify a, b, c and d in the following table:

Name of the human disease	Name of the causal bacteria/virus	Specific organ or its part affected
1. Typhoid	<i>Salmonella typhi</i>	a
2. Common cold	b	c
3. Pneumonia	<i>Streptococcus pneumoniae</i>	d

2

2. Identify A, D, E and F in the diagram of an antibody molecule given below:



2

#### OR

Why a person with cuts and bruises following an accident is administered with tetanus antitoxin? Give reasons.

2

3. Identify A, B, C and D in the following table:

Scientific name of the source plant	Drug	Harmful effects/Human body part affected
1. <i>Papaver somniferum</i>	A	Depressant/slows body functions
2. <i>Cannabis sativa</i>	Cannabinoids	B
3. <i>Erythroxylon coca</i>	C	D

2

4. Why is 'starter' added to set the milk into curd? Explain.

2

5. Name two alcoholic drinks produced in each of the following ways:

(i) with distillation and (ii) without distillation.

**OR**

Bottled fruit juices are clearer as compared to those at home. Explain.

6. Identify A, B, C and D in the table given below:

Micro-organism	Product	Biological activity	Medical ailment/ Procedure
A <i>Trichoderma polysporum</i>	Streptokinase B	Clot buster C	D Transplant surgery

**Section-B**

7. A patient is down with *Amoebiasis*. List the symptoms that confirm this infection. Name the causative pathogen. 3

8. Name the form of *Plasmodium* that gains entry into the human body. Explain the different stages of the life cycle in the human body. 3

**OR**

Why are lymph nodes and bone marrow called lymphoid organs? Explain the functions of each of them. 3

9. Name the cells HIV attacks first when it gains entry into a human body. How does this virus replicate further to cause immunodeficiency in the body? 3

10. (a) How is activated sludge formed during sewage treatment?

(b) This sludge can be used as an inoculum or as a source of biogas. Explain. 3

11. Draw a labelled sketch of a typical biogas plant. 3

12. Choose any three microbes, from the following which are suited for organic farming, which is in great demand these days for various reasons. Mention one application of each one chosen: Mycorrhizae, *Monascus*, *Anabaena*, *Rhizobium*, *Methanobacterium*, *Trichoderma* 3

**Section-C**

13. Read the following passage and answer the questions that follow:

Cancer is one of the most dreaded diseases of human beings and is the major cause of death all over the world. The mechanisms that underlie the development of cancer, its treatment and control have been some of the most intense areas of research in the fields of medicine and biology. Early detection of cancers is essential for successful treatment and cure of the disease. 5

(a) Name and define the property shown by all normal cells, but is lost in the cancer or tumor cells.

(b) Name the two types of tumors.

(c) Give two examples of physical carcinogens.

(d) Name and define the most feared property of malignant tumors.

(e) What are proto-oncogenes?

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