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(NEP—2020)

(1st Semester)

BOTANY

(Multi-disciplinary Course)

(**Fundamentals of Biology**)

Full Marks : 75

Time : 3 hours

The figures in the margin indicate full marks for the questions

(**SECTION : A—OBJECTIVE**)

(*Marks : 10*)

Tick (✓) the correct answer in the brackets provided :

1×10=10

1. Who was the first to recognize that there are distinct differences between venous and arterial blood?

(a) Galen ()

(b) Aristotle ()

(c) Harvey ()

(d) Fracastoro ()

2. The first person who isolated and identified *Bacillus anthracis* was

(a) Louis Pasteur ()

(b) Robert Koch ()

(c) Fracastoro ()

(d) Galen ()

3. Theory of inheritance of acquired characters was proposed by
- William Harvey ()
 - Lamarck ()
 - Robert Koch ()
 - Charles Darwin ()
4. The principle of survival of the fittest is called
- struggle for existence ()
 - natural selection ()
 - variation ()
 - overproduction ()
5. *Omnis cellula e cellula* (all cells come from other cells) was a principle introduced by
- Matthias Schleiden ()
 - Rudolf Virchow ()
 - Theodor Schwann ()
 - Robert Koch ()
6. Living cells were first observed and described by
- Theodor Schwann ()
 - Antonie van Leeuwenhoek ()
 - Robert Hooke ()
 - Rudolf Virchow ()
7. On observing a thin slice of cork under a magnifying glass, the name 'cell' was coined by
- Matthias Schleiden ()
 - Louis Pasteur ()
 - Robert Hooke ()
 - Antonie Van Leeuwenhoek ()
8. Penicillin was used to treat
- American soldier wounded in World War I ()
 - British soldier wounded in World War I ()
 - American soldier wounded in World War II ()
 - British soldier wounded in World War II ()

9. Salvarsan an arsenic-containing drug that was first used to treat

- (a) syphilis ()
- (b) typhoid ()
- (c) dysentery ()
- (d) tuberculosis ()

10. The first cure for tuberculosis is

- (a) penicillin ()
- (b) prontosil ()
- (c) salvarsan ()
- (d) streptomycin ()

(SECTION : B—SHORT ANSWERS)

(Marks : 25)

Write short notes/Answer on *five* of the following, taking at least *one* from each

Unit :

5×5=25

UNIT—I

1. Works of Girolamo Fracastoro
2. Contributions of Louis Pasteur
3. Galen's contribution in the development of physiology

UNIT—II

4. Birth of genetics
5. Cell theory of Rudolf Virchow
6. Contributions of Robert Hooke

UNIT—III

7. Discovery of DNA
8. How was penicillin discovered?
9. Prontosil and its discovery

(SECTION : C—DESCRIPTIVE)

(Marks : 40)

Answer *four* of the following questions taking at least *one* from each unit :

10×4=40

UNIT—I

1. Discuss Lamarck's theory of evolution.
2. Explain contributions of Robert Koch.
3. Write down the contributions of Aristotle in biology.

UNIT—II

4. Explain Mendel's experiment and his laws.
5. Write a note on contributions of Antonie Van Leeuwenhoek in the discovery of cell.
6. Discuss Schleiden and Schwann unified cell theory.

UNIT—III

7. Describe the discovery of streptomycin.
8. Who was Gerhard Domagk? Write his contributions on the discovery of prontosil.
9. How was 'Dolly' cloned?
