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(NEP-2020)

(1st Semester Repeater)

BOTANY/ZOOLOGY/BIOTECHNOLOGY

(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. The 'father of experimental physiology' is

- (a) William Harvey ()
- (b) Galen ()
- (c) Robert Hooke ()
- (d) Aristotle ()

2. Pasteurization was developed by

- (a) Girolamo Fracastoro ()
- (b) Robert Koch ()
- (c) Louis Pasteur ()
- (d) Robert Hooke ()

3. Robert Koch isolated and identified
(a) *Mycobacterium tuberculosis* ()
(b) *Vibrio cholera* ()
(c) *E. coli* ()
(d) *Bacillus anthrax* ()
4. The cell theory was proposed by
(a) Robert Hooke ()
(b) Matthias Schleiden and Theodor Schwann ()
(c) Antonie van Leeuwenhoek ()
(d) None of them ()
5. The 'father of genetics' is attributed to
(a) Watson and Crick ()
(b) Gregor Mendel ()
(c) Charles Darwin ()
(d) Max Delbruck ()
6. The term 'cell' was coined by
(a) Louis Pasteur ()
(b) Robert Koch ()
(c) Charles Darwin ()
(d) Robert Hooke ()
7. The famous statement, "Cells arise from pre-existing cells" was made by
(a) Rudolf Virchow ()
(b) Linus Pauling ()
(c) Theodor Schwann ()
(d) Antonie van Leeuwenhoek ()
8. Salvarsan is a drug used for the treatment of
(a) typhoid ()
(b) dysentery ()
(c) syphilis ()
(d) cholera ()

9. Penicillin was discovered by
- (a) Alexander Fleming ()
 - (b) Robert Hooke ()
 - (c) Howard Florey ()
 - (d) Robert Alexander ()
10. Streptomycin was first isolated by
- (a) Waksman ()
 - (b) Albert Schatz ()
 - (c) Gerhard Domagk ()
 - (d) Alexander Fleming ()

(SECTION : B—SHORT ANSWERS)

(Marks : 25)

Write on *five* of the following, taking at least *one* from each Unit :

5×5=25

UNIT—I

1. Contribution of Robert Koch
2. Works of Girolamo Fracastoro
3. Physiological system by Galen

UNIT—II

4. Rudolf Virchow
5. Monohybrid cross
6. Contribution of Robert Hooke

UNIT—III

7. Works of Alexander Fleming
8. Discovery of prontosil
9. Contribution of Watson and Crick

(SECTION : C—DESCRIPTIVE)

(Marks : 40)

Answer four of the following questions, taking at least one from each Unit :

10×4=40

UNIT—I

1. Write the contribution of Aristotle in Biology. 10
2. Write on germ theory of disease. 10
3. Write notes on the following : 5×2=10
(a) William Harvey
(b) Louis Pasteur

UNIT—II

4. Write on the origin of cell theory. 10
5. Write on Mendel's experiments and laws. 10
6. Write notes on the following : 5×2=10
(a) Antonie van Leeuwenhoek
(b) Matthias Schleiden

UNIT—III

7. Describe the discovery of DNA. 10
8. Write notes on the following : 5×2=10
(a) Salvarsan
(b) Streptomycin
9. Write on the Dolly sheep cloning project. 10

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(SECTION : A—OBJECTIVE)

(Marks : 10)

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- (d) Aristotle ()

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(SECTION : B—SHORT ANSWERS)

(Marks : 25)

Write on five of the following, taking at least one from each Unit :

5×5=25

UNIT—I

1. Contribution of Robert Koch
2. Works of Girolamo Fracastoro
3. Physiological system by Galen

UNIT—II

4. Rudolf Virchow
5. Monohybrid cross
6. Contribution of Robert Hooke

UNIT—III

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8. Discovery of prontosil
9. Contribution of Watson and Crick

(SECTION : C—DESCRIPTIVE)

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10×4=

UNIT—I

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2. Write on germ theory of disease.
3. Write notes on the following :
(a) William Harvey
(b) Louis Pasteur

100
10

5×2=10

UNIT—II

4. Write on the origin of cell theory.
5. Write on Mendel's experiments and laws.
6. Write notes on the following :
(a) Antonie van Leeuwenhoek
(b) Matthias Schleiden

10

10

5×2=10

UNIT—III

7. Describe the discovery of DNA.
8. Write notes on the following :
(a) Salvarsan
(b) Streptomycin

10

5×2=10

9. Write on the Dolly sheep cloning project.

10
