SS/PBN-I/BP/6-14

2 0 1 4

(June)

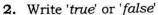### BIOPHYSICS & BIOCHEMISTRY

Full Marks : 75

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer **all** questions

*Write the answers to the two Halves
in separate books*

FIRST HALF

1. Fill in the blanks $1 \times 5 = 5$
   (a) Myopia is corrected with _____ lens.
   (b) The lateral pressure exerted by a column of blood on the arterial wall is known as _____.
   (c) The unit of sound is _____.
   (d) Tachycardia means _____.
   (e) The normal respiratory rate is _____.

2. Write 'true' or 'false'   1 × 5 = 5
    (a) Parallel rays of light passing through a convex lens meet at its focus.
    (b) X-ray is produced in a Cathode-ray tube.
    (c) The blood pressure is more when a person is lying down than when he sits up.
    (d) Intra-abdominal pressure rises during vomiting.
    (e) Ultrasound is produced by Piezo-electric crystal.

3. What do you mean by wavelength of light? Explain the biological effects of light.   2 + 4 = 6

4. What is radioactivity? How does it affect the human body? Mention few uses of radioactivity in medical practice.
                                                    2 + 3 + 2 = 7

5. Write short notes on *any four* of the following   3 × 4 = 12
    (a) Vital capacity
    (b) Cardiac cycle
    (c) Central venous pressure
    (d) Intraocular pressure
    (e) Temperature regulation by our body
    (f) Colloid

SECOND HALF

6. Classify carbohydrates. Describe how dietary carbohydrates are digested, absorbed and utilized to produce energy.   3 + 7 = 10

7. Name the following   2 × 5 = 10
    (a) Essential fatty acids
    (b) Two liver enzymes
    (c) Semiessential amino acids
    (d) Ketone bodies
    (e) Bile pigments

8. Write short notes (*any five*) $4 \times 5 = 20$

    (a) Coenzymes

    (b) Electrophoresis

    (c) Benedict's test

    (d) Transamination

    (e) Urea synthesis

    (f) Membrane transport

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