PHYSIOLOGY
PAPER-II

Time: 3 hours

PHY/J/20/36/II

Max. Marks:100

Important Instructions:

- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

Write short notes on:

1. a) Enumerate functions of liver. Add a note on its glucose buffer function.   (2+3)+(1+4)
    b) Define jaundice. What is the pathophysiologic basis of its classification?

2. a) Components that contribute to the work of breathing.   5+5
    b) Normal and pathological conditions that cause alterations in each component.

3. a) Mechanism of autoregulation of glomerular filtration rate.   5+5
    b) Intrinsic mechanism of regulation of renal tubular reabsorption

4. a) Role of central and peripheral chemoreceptors in regulation of respiration.   (3+4)+3
    b) Add a note on the responses that are mediated by airway and lung receptors.

5. a) Cerebral circulation.   5+3+2
    b) Enumerate three methods for measuring blood flow in various parts of the brain.
    c) Mention a key drug used in treatment of early ischaemic cerebral stroke and its mechanism of action.

6. a) Modalities for regulation of gastrointestinal motility.   6+4
    b) Gut brain axis.

7. a) Enumerate central and peripheral hormonal factors that increase food intake.   5+(2+3)
    b) How is obesity classified on basis of BMI? What is the role of non-exercise activity thermogenesis in obesity?

8. a) Role of platelets in haemostasis.   5+5
    b) Tests used to assess the clotting mechanism.

9. a) Process of renal H^+ secretion.   6+4
    b) Describe how renal H^+ secretion contributes to regulation of acid base balance.

10. a) Physiological actions of angiotensins.   5+5
    b) Clinical importance of renin angiotensin system.

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POSSESSION/USE OF CELL PHONES OR ANY SUCH ELECTRONIC GADGETS IS NOT PERMITTED INSIDE THE EXAMINATION HALL.