

2021
PHYSIOLOGY
[HONOURS]
Paper : VIII

Full Marks : 80

Time : 4 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.***GROUP-A**

1. Answer any **seven** questions: 1×7=7
- a) What is infradian rhythm? Give one example.
 - b) State the cause of megaloblastic anemia.
 - c) What is CCK-PZ?
 - d) What do you mean by temporary endocrine organ?
 - e) Define zeitgeber.
 - f) What is cleavage?
 - g) What is corpus haemorrhagicum?
 - h) Name the clinical condition arising due to –

[Turn over]

- i) Hyposecretion of insulin
- ii) Hypersecretion of GH after puberty.

- i) What is PCM?

GROUP-B

2. Answer any **six** questions: 2×6=12
- a) Why do we shiver in cold?
 - b) What do you mean by seasonal breeders?
 - c) What is acrosomal reaction?
 - d) What is 'Lawrence Moon Biedle Syndrome'?
 - e) What is Wolff-Chaikoff effect?
 - f) What is blood-testis barrier? Mention its significance.
 - g) What do you mean by anti-rise and anti-drop hypothalamic centres?
 - h) What are tropic hormones?

GROUP-C

3. Answer any **three** questions: 7×3=21
- a) i) What is mixed gland? Give one example.
 - ii) Discuss the role of glucagon in the regulation of blood glucose level.
- 1+3+3=7

- b) Describe the cause, symptoms and management of Kwashiorkor. $2+2+3=7$
- c) i) Name the hormone secreted by placenta.
 ii) State the regulation of secretion of prolactin during pregnancy.
 iii) What is 'Amenorrhoea'? $2+3+2=7$
- d) What is insensible perspiration? Discuss the hormonal and neural control of body temperature in homeotherms. $1+3+3=7$
- e) Describe fetal circulation with proper diagram. 7

GROUP-D

4. Answer any **four** questions: $10 \times 4 = 40$
- a) i) How are the catecholamines synthesized in adrenal medulla?
 ii) Discuss the role of cortisol on carbohydrate metabolism.
 iii) What are stress hormones? $4+4+2=10$
- b) i) Describe briefly the physiological basis of sleep-wakefulness cycle in human beings.

- ii) What is ultradian rhythm? $8+2=10$
- c) Write short notes on (any **two**): $5 \times 2 = 10$
- i) Estrous cycle.
 ii) Feedback mechanism involved in ACTH and glucocorticoid secretion.
 iii) Comparison between human's milk and cow's milk.
- d) Discuss with example the hormonal actions mediated through cAMP and G-protein. $5+5=10$
- e) i) Write a note on LH surge.
 ii) Mention the role of different hormones that regulate contractility of uterus during parturition.
 iii) What do you mean by capacitation? $4+4+2=10$
- f) i) Describe the role of PTH in the regulation of blood Ca^{++} and PO_4^- level.
 ii) What do you mean by negative and positive Ca^{++} balance?
 iii) What is osteomalacia? $5+3+2=10$