

2018

2nd Semester

BIOTECHNOLOGY

PAPER—C3T

(Honours)

Full Marks : 40

Time : 2 Hours

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

1. Answer any *five* questions from the following : 5×2

(a) Name the bile salts and pigments in human.

(b) Differentiate isotonic and isometric contraction.

(c) Write down the features of ureotelic organisms.

(Turn Over)

- (d) What is acromegaly ?
- (e) Write down the functions of calcitonin hormone.
- (f) What is the utility of collagen in mammalian tissue ?
- (g) What are megakaryocytes ?
- (h) What is chloride shift ?

2. Answer any *four* questions from the following : 4×5

- (a) Write down the composition of pancreatic juice. How does it take part in digestion in human ? 2+3
- (b) Write a brief note on plasma proteins and their functions. 5
- (c) (i) What is action potential ?
(ii) Write down the mechanism of skeletal muscle contraction. 1+4
- (d) (i) What is saltatory conduction of nerve impulse ?
(ii) Write in brief the mechanism of synaptic transmission in a chemical synapse. 1+4

- (e) (i) What is hypothalamo-hypophyseal axis ?
- (ii) Write down the features of hyper- and hypo-secretions of Growth Hormone. 2+3
- (f) (i) What is vital capacity ? Write down its normal value in human. 3+2
- (ii) Write down the role of erythropoietin including its mechanism of action in human. 2+3

3. Answer any *one* question from the following : 1×10

- (a) (i) Write down the reaction sequence of Ornithine cycle. What is its importance in human ?
- (ii) Write down the structural features of smooth muscle fibre in human. Why smooth muscle is called functional syncytium ?
- (iii) What is muscle tone ?

(3+2)+(2+1)+2

(b) (i) Write down the intrinsic pathway of blood coagulation in human.

(ii) Name two anticoagulants with their mechanism of action.

(iii) What is cardiac output? Write down its significance.

3+(2+2)+(2+1)
