

2019

ZOOLOGY

( Major )

Paper : 5.1

( Animal Physiology )

Full Marks : 60

Time : 3 hours

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

1. Fill in the blanks/Choose the correct answer :

1×7=7

- (a) Fibrinogen is produced by \_\_\_\_\_.
- (b) Myofibrils of heart are surrounded by \_\_\_\_\_.
- (c) Monocytes and tissue macrophages are powerful \_\_\_\_\_.
- (d) Different varieties of leukocytes are found in
  - (i) marrow pool
  - (ii) blood pool
  - (iii) tissue pool
  - (iv) All of the above

- (e) Stellate cells are found in
- (i) pancreas
  - (ii) stomach
  - (iii) liver
  - (iv) intestine
- (f) Column of Bertin is present in
- (i) heart
  - (ii) nerve cell
  - (iii) kidney
  - (iv) muscle
- (g) Nissl bodies are present
- (i) in axon hillock
  - (ii) in axon
  - (iii) in allover the soma
  - (iv) within dendrite

2. Answer the following :

2×4=8

- (a) Differentiate between myelinated and non-myelinated nerve fiber.
- (b) What are the functions of proteolytic enzymes?
- (c) Differentiate between granulocytes and agranulocytes.
- (d) Write about the functions of myoglobin.

( 3 )

3. Answer any *three* questions from the following :  $5 \times 3 = 15$

(a) Describe briefly the structure and function of neuromuscular junction.

(b) Write a note on  $O_2$  dissociation curve.

(c) Describe briefly about the process of chloride shift.

(d) Describe the saltatory propagation of nerve impulse.

(e) Write a note on the functions of pancreatic juice.

4. Mention the different types of gastric glands. Describe the role of stomach in digestion.

$3+7=10$

Or

What is villi? What is the role played by intestinal villi? Describe the process of absorption in intestine.

$1+3+6=10$

5. Describe the process of blood clotting mechanism.

10

Or

Describe the structure and functions of different types of WBC.

$5+5=10$

( 4 )

6. What is muscle protein? What are the roles played by different types of muscle proteins during muscle contraction?  $2+8=10$

Or

What is all-or-none law? Describe the process of impulse transmission through a non-myelinated nerve fiber.  $3+7=10$

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