

M.Sc. (Part-II) Semester-III (CBCS) Examination

ZOOLOGY

ANIMAL PHYSIOLOGY-I

Paper-XI (Elective Paper-I)

Time : Three Hours]

[Maximum Marks : 80

N.B.:— (1) All questions are compulsory.

(2) All questions carry equal marks.

(3) Illustrate your answer with suitable diagrams wherever necessary.

1. Describe the following :

- (a) Microscopic structure of skeletal muscle.
- (b) Distribution of ion in muscle
- (c) Isotonic and isometric contraction.
- (d) Physical properties of skeletal muscle.

OR

- (e) Sarcotubular system
- (f) Actin and myosine protein in muscle
- (g) Molecular basis of muscle contraction
- (h) Calmodulin and calcium pump.

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2. Explain the following :

- (i) Synthesis and release of Acetylcholine
- (j) Presynaptic events during muscle contraction
- (k) Myasthenia gravis
- (l) Denervation hypersensitivity

OR

- (m) Electrical events at neuromuscular junction
- (n) Action of Ach on the end plate membrane
- (o) Significance of red and white fiber in muscles
- (p) Effect of drugs on neuromuscular transmission.

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3. Explain local circuit theory and saltatory conduction.

OR

Describe Donnan equilibrium system and their role in maintaining the action potential.

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4. Describe excitatory and inhibitory post synaptic potential in neurons.

OR

Write in detail synthesis and storage of different types of neurotransmitters.

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5. Explain the following :

- (q) Growth factors
- (r) Pathophysiology of Parkinson's disease
- (s) Neurotrophin-3
- (t) Imprinting

OR

- (u) Role of hormones in emotion
- (v) Symptoms of Duchenne's muscular dystrophy
- (w) Neurotrophin 4/5
- (x) Brain derived neurotrophic factor.

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