

Third Semester M.Sc. - II (CBCS) Examination

ZOOLOGY

Paper - XI (Elective Paper - I)

Animal Physiology - I

P. Pages : 3

Time : Three Hours]

[Max. Marks : 80

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- Note :** (1) All questions are compulsory.
(2) Illustrate your answer with suitable diagrams wherever necessary.
(3) All questions carry equal marks.

1. Describe the followings :—

- (a) Muscle proteins.
- (b) Calcium pump.
- (c) Structure of skeletal muscle.
- (d) Chemical changes during muscle contraction.

OR

- (e) Sarcotubular system.
- (f) Isotonic and isometric contraction.
- (g) Physical properties of skeletal muscle.
- (h) Role of Ca^{++} and calcium receptors. 16

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2. Describe the presynaptic events, synthesis and release of acetylcholine during muscle contraction.

OR

Give an account of Hypotonicity, Hypertonicity, and fibrillation of muscle disorders. 16

3. Explain the followings :—

- (i) Conductivity and summation of nerve.
- (j) Action potential and resting potential.
- (k) Saltatory conduction.
- (l) Ionic theory.

OR

- (m) Ultrastructure of neuron.
- (n) Donnan equilibrium system.
- (o) Local circuit theory.
- (p) Nerve conduction. 16

4. Explain the biosynthesis, storage and release of acetylcholine.

OR

Write on Excitatory and inhibitory post synaptic potential. 16

5. Describe the followings :—

- (q) Growth factor.
- (r) Pathophysiology of Duchenne's muscular dystrophy.
- (s) Neutrophin-3
- (t) Etiology and symptoms of Parkinson's disease.

OR

- (u) Neurotrophins 4/5
- (v) Imprinting
- (w) Physiology of Emotions
- (x) Brain derived neurotrophic factor. 16

