Seat No:_____ Enrollment No:_____

PARUL UNIVERSITY

FACULTY OF APPLIED SCIENCE

B.Sc., Summer 2017-18 Examination

Semester: 6 **Date: 17/05/2018**
Subject Code: 11103351 **Time: 2:00pm to 4:30pm**
Subject Name: Molecular Physiology **Total Marks: 60**

Instructions:
1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page

Q.1. A) What is Oxidative Stress? How the ROS and RNS effect aging? Mention Fenton and Haber-Weiss Equations **(08)**

Q.1. B) **Answer the following questions (Any two)**

(a) Brief note (2x2) **(04)**
1. Oxidative Damage
2. Acetylcholine receptor

(b) How does Excitation contraction coupling happen in skeletal muscles? **(04)**

(c) Give a brief account of how some drugs act at Neuro muscular junction? **(04)**

Q.2. A) **Answer the following questions.**

(a) Brief note (2x2) **(04)**
1. Enzymatic antioxidants
2. Non enzymatic antioxidants

(b) Name two autoimmune diseases which lead to hormone abnormality? Describe one of them in detail **(04)**

Q.2. B) **Answer the following questions (Any two)**

(a) Multiple choice questions. **(03)**

1. Intercalated discs are unique to …….muscle tissue:
   A. Smooth B. Skeletal
   C. Cardiac D. Rough
2. Which of the following enzymes is unable to protect the cell against free radical damage?
   A. Catalase B. Glutathione Peroxidase
   C. β ketothiolase D. Superoxide Dismutase
3. Oxidative damage results in ……..disease/s
   A. Alzheimer's Disease B. Parkinson's Disease
   C. Amyotrophic Lateral Sclerosis D. All of the above

(b) Write a short note on Damaging effect of ROS on Lipids **(03)**

(c) Short note on Voltage Clamp of nerve fibre **(03)**

Q.3. A) **Essay type question** **(08)**

Write a detailed account of Neuro-Muscular Transmission with a labeled diagram.

Q.3. B) **Answer the following questions (Any two)**

(a) Brief note (2x2) **(04)**
1. Sensory Modality
2. Visual pathway

(b) Short note on : Hypothalamus as neuroendocrine organ **(04)**

(c) Short note on Olfactory epithelium and receptors **(04)**

Q.4. A) **Answer the following questions.**

(a) Fill in the blanks. (Each of 02 marks) **(04)**
1. ……..and ……..are source of exogenous oxidants
2. Antioxidants play a protective role in preventing and delaying certain diseases by……..

(b) Short note on Higher functions of vision **(04)**

Q.4. B) **Answer the following questions (Any two)**

(a) Define: **(03)**
1. Anosmia
2. Coding of Olfactory Information
3. Oxidative damage of ROS on DNA

(b) Describe the role of second messenger in hormone action/signal transduction? **(03)**

(c) Short note on Taste qualities and substances evoking primary taste sensations **(03)**