

**Parul University**  
**Parul Institute of Medical Sciences & Research**

**Department of Physiology**

**1<sup>st</sup> Internal Examination (1<sup>st</sup> MBBS 2017-18 Batch)**

Date: 6<sup>th</sup> Jan. 2018

Marks: 50

Time: 10:00 am to 12:30 noon

**Instructions:**

1. Write each section in separate answer sheet
2. Draw diagram wherever necessary
3. Mobile phones are not allowed in examination hall
4. Figures to the right indicates mark
5. Put ✓ (tick mark) for the correct option in section 1 (MCQs)

**Section 2**

**20 marks**

**A. Write Essay on any one of the following**

1 x 10 = 10

1. What is sarcomere? discuss the "Walk along" Theory of skeletal Muscle contraction.

**OR**

1. Define synapse. Describe the process of synaptic transmission. What is synaptic plasticity?

**B. Discuss**

2 x 5 = 10

- 1) Intrinsic pathway of blood coagulation.
- 2) Mechanics of breathing

**Section 3**

**20 marks**

**A. Write briefly on. (4 out of 5)**

4 x 3 = 12

- i) Various events in left ventricle during cardiac cycle
- ii) A- V nodal delay
- iii) Na- K Pump
- iv) Rh -Factor
- v) Vital capacity.

**B. Write short notes on. (2 out of 3)**

2 x 4 = 8

- i) Wallerian Degeneration.
- ii) Plateau potential in heart.
- iii) Homeostasis.

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Dt. 6-1-18

**Section 1**

10 MCQs:

10 marks

Put ✓ (tick mark) for the correct option

1. The cardiac muscle fibers
  - a) Are unstriated muscle fibers
  - b) form true syncytium
  - c) Are poor in mitochondria
  - d) lack low resistance junctions
2. The fibers of the A-V bundle & its branches
  - a) Conduct impulses very slowly
  - b) are highly contractile
  - c) Are modified muscle fibers
  - d) are nerve fibers
3. It is impossible to tetanize a heart because
  - a) There is a long mechanical refractory period
  - b) Refractory period & mechanical contractile response are of almost equivalent duration
  - c) The heart muscles do not contain  $Ca^{++}$
  - d) Mechanical contractile event is usually shorter than the electrical depolarization
4. Opening to the trachea is covered by a small flap of tissues termed as the
  - a) Glottis
  - b) trachea
  - c) larynx
  - d) epiglottis
5. The maximum volume of air contained in the lung by a full forced inhalation is called
  - a) Vital capacity
  - b) tidal volume
  - c) total lung capacity
  - d) inspiratory capacity
6. A deficiency of lung surfactant may result in
  - a) respiratory distress syndrome
  - b) low pulmonary elasticity
  - c) pneumothorax
  - d) chronic obstructive pulmonary disease
7. Detection of vibration in vertebrates is because of receptors in
  - a) Muscles
  - b) Joints
  - c) bones
  - d) cartilage
8. Myasthenia gravis is disorder of:
  - a) Release of synaptic vesicle
  - b) release of Ach.
  - c) Calcium channels in pre-synaptic membrane
  - d) reduction in Ach receptors
9. Which of the following platelet protein can stimulate growth of endothelial cells?
  - a) Platelet derived growth factor
  - b) thrombospondin
  - c) Platelet factor 4
  - d)  $\beta$  thromboglobulin
10. The principal intracellular cation is
  - a)  $Na^+$
  - b)  $K^+$
  - c)  $Cl^-$
  - d)  $Ca^{++}$

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