

35	Pacemaker potential is a spontaneous process caused by Na <sup>+</sup> influx.
36	The conduction velocity of cardiac action potential is slowest in the nodal tissue because they are poor in gap junctions.
37	The conduction of AP in cardiac muscle delayed mainly His-Purkinje system to allow complete contraction of atria before ventricular contraction.
38	The only source of Ca <sup>2+</sup> during cardiac muscle contraction is the sarcoplasmic reticulum.
39	The increase of cardiac after load increases cardiac muscle contractility.
40	The parasympathetic stimulation can increase ventricular muscle contractility.
41	The conducting zone of the respiratory system include all the anatomical structures from nose to terminal bronchioles and concerned with gases exchange.
42	The alveolar wall contain alveolar macrophages cells which has a defense mechanism.
43	All the expiratory muscles are active only during maximal expiration.
44	The contraction of inspiratory muscles increase the intrapulmonary pressure over the atmospheric pressure and lead to air inflow.
45	During deep inspiration, the volumes of air that enters the lung include the tidal volume and inspiratory reserve volume.
46	CO <sub>2</sub> transported in blood mainly as bicarbonate (HCO <sub>3</sub> <sup>-</sup> ) anions.
47	During chloride-bicarbonate shift, the Cl <sup>-</sup> ions increased inside the RBCs and PCV% increased.
48	Apneustic center regulates the depth of respiration while the pneumotaxic center regulate the rate and rhythm of respiration.
49	Central chemoreceptors is highly responsive to hypoxemia while central chemoreceptors is highly responsive to hypercapnia.
50	Stagnant hypoxia can be diagnosed in lab. by high O <sub>2</sub> content & PO <sub>2</sub> in venous blood.

**Q II: Write short notes on the following:**

**(15 Marks)**

- 1- Functions of lung surfactants. (1 M)
- 2- Factors affecting gases diffusion through respiratory membrane. (1 M)
- 3- Compare between factors that shift O<sub>2</sub>-Hb dissociation curve to left and right. (1 M)
- 4- Types of hormones receptors. (1.5 M)
- 5- Physiological functions of insulin hormone. (2 M)
- 6- Regulation of thyroid hormones secretion. (by diagrams) (2 M)
- 7- Somatomedins. (1.5 M)
- 8- Hypothalamic hypophysiotropic hormones. (2 M)
- 9- Physiological functions of calcitonin hormone. (1 M)
- 10- Regulation of glucocorticoids secretion. (by diagrams) (2 M)

**WITH MY BEST WISHES**

*Dr. Ibrahim said*