Q-1) State **TRUE/FALSE** as applicable:  

i) There are eight cervical vertebrae.  
ii) Left Anterior Descending artery is a branch of Left Main Coronary Arteries. 
iii) The Circle of Willis is formed by Anterior, Middle and Posterior Cerebral arteries. 
iv) Liver is a paired organ. 
v) Central Nervous System consists of the Cranial Nerves and the Spinal Nerves. 
vi) Diastole is longer than Systole. 
vii) SA node is located at the junction of Superior Vena Cava and Right Atrium. 
viii) P Wave stands for Ventricular Depolarisation. 
ix) Adrenaline acts on both on Alpha and Beta Receptors. 
x) Adrenaline causes broncho-constriction. 

**10x1 = 10**

**Answer any Two from Question No. 2 to 5 and any Four from Question No. 6**

Q2. Describe the normal coronary arterial circulation with diagram  

**15+5 = 20**

Q3. Describe the normal Conduction System and Pacing of the heart with diagram.  

**15+5 = 20**

Q4. Describe the different mechanisms of Transport across cell membrane.  

**20**

Q5. What is Blood Pressure? How to measure BP? Which physiological mechanisms do regulate the BP in human?  

**5+5+10 = 20**

Q6. Write short notes on **(Any Four)** of the five topics stated below:  

a) Action Potential. 
b) Coagulation Cascade. 
c) Muscle contraction. 
d) Cardiac Cycle. 
e) Atherosclerosis. 

**4 x 7½ = 30**
Q-1) State **TRUE/FALSE** as applicable:

10x1 = 10

i) Current is the ratio of Voltage and Resistance.

ii) Superior Axis is located in North West quadrant.

iii) AV nodal delay is reflected in PR interval.

iv) QRS complex stands for ventricular repolarisation.

v) Slow fast AVNRT is the commonest variety of all the types of AVNRT encountered.

vi) Full form of WPW syndrome is Wolf Parkinson White Syndrome.

vii) Fusion beat is exemplified by Pre-excitation.

viii) Sinus Bradycardia is associated with heart rate lower than sixty per minute and sequential relationship of P, QRS and T.

ix) Wide QRS is defined as QRS width greater than equal to 120 msec.

x) ST elevation or depression is measured with respect to PR segment or TP segment.

**Answer any Two from Question No. 2 to 5 and any Four from Question No. 6**

2x20 = 40

Q2. Describe principle of Tread Mill Test. Describe Bruce Protocol and Modified Bruce Protocol of Tread Mill Test. State five contraindications of TMT.

5+5+5+5 = 20

Q3. Describe the structure of ECG machine with sketch diagram and enumerate the principle of its functioning.

10+10 = 20

Q4. What is Defibrillation? Describe the steps of electrical energy delivery. What is the difference between defibrillation and DC Cardioversion?

5+10+5 = 20

Q5. What is Holter Monitoring (ambulatory ECG)? How does it help in diagnosis of (a) Sick Sinus Syndrom (b) AV Blocks and (c) Ventricular premature beats & ventricular Tachycardia?

5+5+5+5 = 20

Q6. Write short notes on (Any Four) of the five topics stated below:

4 x 7½ = 30

a) ECG during Carotid Sinus Massage.

b) ECG during Head Up Tilt Table Test.

c) ECG monitoring in ICCU patients.

d) Basic Life Support in Cardio-Pulmonary Resuscitation.

e) ECG manifestations in patients in the Cath Lab.