MCQ on lecture 1(part2) lecture 2 ,lecture 3

12- Phase 4 of SAnodal potential is attritutable to :

a- An increase in K conductance
b- An increase in Na conductance
c- Decrease in Cl conductance
d- Decrease in Ca conductance
e- Simultaneous increase in K and Cl conductance

13- During which phase of ventricular action potential is the conductance of Ca is highest :

a- Phase 0
b- Phase 1
c- Phase 2
d- Phase 3
e- Phase 4

14- Chronotropism refer to :

a- Rhythmicity
b- Conductivity
c- Excitability
d- Contractility

15- SA node is the normal pacemaker because of its :

a- Rate of discharge
b- Location in the atrium
c- Neural control
d- Muscular structure
e-Relative position to AV node

16- SA node is the normal pacemaker because :

a- Most rapidly discharging part
b- Most richly supplied by nerve ending
c- Located in atrium
d- All of the above

17- Regarding Sanode :

a- Cells within it, act as pacemaker because there membrane depolarize to the threshold and initiate action potential
b- Acetylcholine increase the slope of pacemaker potential
c- Sympathetic decrease the slope of pacemaker potential
d- Cells within it are neurons rather than myocytes

18- Pacemaker potential is primarily due to :

a- Slow decrease in K permeability
b- Slow increase in k permeability
c- Slow decrease in Na permeability
d- Rapid increase in Ca permeability
e- Slow decrease in Mg permeability

19- The cardiac tissue with the slowest rythmicity :

a- Sanode within vagal tone
b- Sanode without vagal tone
c- Ventricular ms
d- Avnode
e- Purkinje fibers

20- Action potential of heart is characterized by plateau :

a- In the ventricle is reached 100 m.sec
b- In the atrial ms is reached 300 m.sec
c- Result from balance between ca influx and k efflux
d- Result from inflow of cl and outflow of HCO_3

21- It is impossible to tetanize heart because :

a- There is a long mechanical refractory period

b- The electrical refractory period and mechanical contractile response are almost equivalent duration

c- Heart ms does not contain ca

d- Mechanical contractile event shorter than depolarization

22- The phase of cardiac cycle in which heart is not responsive :

a- Effective refractory period

b- Relative refractory period

c- Shorter than that of skeletal ms

d- Extend all through action potential

23- ARP of heart:

a- Shorter than that of skeletal ms

b- Really effective but not absolute

c- Extend till end of repolarization

d- Correspond to QRS complex of ECG

e- In the av bundle protect ventricle from high atrial rythem

24- About ARP of heart, all true except:

a- Lasts approximately as long as cardiac contraction

b- Longer than that of skeletal ms

C- Prolonged in damaged myocardial ms

d- Correspond in time with the whole duration of action potential

25- Action potential of cardiac ms differ with that of nerve in :

a- Having negative after potential

b- Having shorter duration

C- Having lower resting potential

d- Having reversed polarity

e-None of the above

26- The steepest pre potential normally occurs in:

a- Sanode
b- Anvode
C- Bundle of his
d- Purkinje fibers
e- Ventricle ms wall

27- In which phase of ventricular ms action potential is k permeability is highest:

a- 0
b- 1
c- 2
d- 3
e- 4

28- Which of the following about cardiac ms is the most accurate :

a- T tubule of cardiac ms can store less ca than skeletal ms
b- Strength of contraction of cardiac ms depend on amount of casuuronding cardiac myocyte
c- Cardiac ms initiation of action potential causes immediate opening of slow ca channel
d- Cardiac repolarization is caused by opening of na channel
e- Mucopolysccharde inside T tubule bind chloride ions

29- Which of the following condition in avnode will cause decrease in heart rate :

a- Increase na permeability
b- Decrease acytcoline level
C- Increase norepinphrine level
d- Increase k permeability
e-Increase ca permeability

30- Which of the following is the resting membrane potential of sanode :

a--100
b--90
C--80
d--55
e--20

31- Which of the following conditions of sanode will cause heart rate to decrease :

a- Increase nor epinephrine level
b- Increase na permeability
C- Increase ca permeability
d- Increase k permeability
e- Decrease actycholine level

32- Which of the following is caused by acetylcholine :

a- Hyperpolarization of sanode
b- Depolarization of av node
C- Decrease permeability to k
d- Increase heart rate
e- Increase permeability to ca

33- Threshold level of Sanode is :

a- -40
b- -55
c- -65
d- -85
e- -105

34- Myocardial contractility is best correlated with intracellular conc. Of:

a- Na
b- k
c- ca
d- CL

35- The physiological function of relatively slow conduction through AV node is to allow sufficient time for :

a- Run off blood from aorta to arteries
b- Venous return to atria
c- Filling of the ventricle
d- Contraction of ventricle

36- Which of the following has negative inotropic effect :

a- Increased heart rate
b- Sympathetic
c- Norepinephrine
d- Acetylcholine
e- Digitalis

37- The most rapid conducting velocity is present in :

a- SAN
b- AVN
c- Ventricular ms
d- Purkinje fibers

38- The fibers of AV bundle and its branches :

a- Conduct impulse very slowly
b- Are highly contractile
c- Are modified ms fibers
d- Are nerve fibers

39- Parasympathetic to heart :

a- Stimulation to heart
b- Decrease rate of AV junctional fibers
c- Prevent idio ventricular rythem
d- Has no effect on refractory period of atrial ms
e-All are true

40- About purkinje fibers, all true except:

a- Modified myocardial cells
b- Confined to ventricle
c- Are primitive nerve tissue
d- Conduct impulse as some nerve fibers

41- All the following decrease in AV node conduction velocity except:

a- Vagus
b- Co2 excess
c- Thyroxine
d- Para sympathomimetic

42- About cardiac conductivity, all true except:

a- Slowest in AV node
b- Maximal in purkinje fibers
c- Slowest in ventricular ms
d- Decreased by vagal stimulation
e- Occurs through modified cardiac ms

43- About cardiac contractility, all the following are true except:

a- Depend on interaction between actin and myosin
b- Increases when serum Rises above normal
c- It is lost if the bathing medium is made Ca free
d- Increases by administration of digitalis

44- Main function of purkinje fibers is :

a- Prevent premature ventricular beat
b- Coordinate valve movement with myocardial contraction
c- Enable all part of the ventricle to contract simultaneously
d- Delay systole until ventricle fill

45- Myocardial contractility is best correlated with intra cellular:

a- Na
b- K
c- ca
d-Cl

46- The following agent are positive inotropic except:

a- Norepinephrine
b- Digitalis
c- Glucagon
d- Acetylcholine

47- Which of the following is most likely to cause heart to go into spastic contraction :

a- Increased body temperature
b- Increased sympathetic activity
c- Decreased extracellular fluid K
d- Excess extra cellular fluid K
e- Excess extra cellular fluid Ca

48- Which of the following result in dilated flaccid heart :

a- Excess Ca in blood
b- Excess K in blood
c- Excess Na in blood
d- Increased sympathetic stimulation

49- Which of the following conditions at AV node will cause a decrease in heart rate :

a- Increased Na permeability
b- Decreased acetylcholine
C- Increased norepinephrine
d- Increased K permeability
e- Increased Ca permeability

50- What is the normal delay of cardiac ms in AV node plus bundle:

a- .22
b- .18
c- .16
d- .13
e- .09

51- Which of the following show how sympathetic affect heart :

a- Permeability of SAN to Na decrease
b- Permeability of AVN to Na decrease
c- Permeability of SAN to k increase
d- There is increased in upward drift of resting membrane potential of SAN
e- Permeability of cardiac ms to Ca decrease

52- Slowest conduction of action potential occurs in:

a- Atrial ms
b- Anterior internodal pathway
c- AV bundle fibers
d- Purkinje fibers
e- Ventricular ms

53- If purkinje fibers become pacemaker, expected heart rate is :

a- 30
b- 50
c- 65
d- 75
e-85

54- Sympathetic stimulation to heart normally to cause which of the following:

a- Acetylcholine release
b- Decreased heart rate
c- Decreased rate of conduction
d- Decreased force of contraction of atria
e- Increased force of contraction of ventricle

55- If SAN is charge at 0.00 seconds, when will the action potential normally arrive at epicardial surface at base of left ventricle:

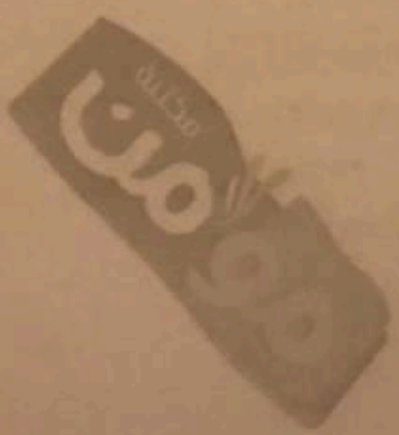
a- .22
b- .18
c- .16
d- .12

56- If SAN discharge at 0.00 seconds, when will the action potential normally arrive at AV bundle:

a- .22
b- .18
c- .16
d- .12
e-.09

12-	b	20-	c	28-	b	36-	d	44-	d
13-	c	21-	b	29-	d	37-	d	45-	c
14-	a	22-	a	30-	d	38-	c	46-	d
15-	a	23-	b	31-	d	39-	b	47-	e
16-	a	24-	d	32-	a	40-	c	48-	a
17-	a	25-	e	33-	a	41-	c	49-	d
18-	a	26-	a	34-	c	42-	c	50-	d
19-	c	27-	d	35-	c	43-	b	51-	d

52-c	53-a	54-e	55-a	56-d



MCQ (lectures and formative of previous year)

57- Which of the following is a major reservoir of blood :

a- Veins
b- Arteries
c- Arterioles
d- Capillaries
e- The heart

58- Excitation wave start in :

a- Atrioventricular bundle
b- Atrioventricular node
c- Atrial ms fibers
d- Sinoatrial node
e- Pukinje fibers

59- Which of the following is not a function of atria :

a- Contain SAnode and AVnode
b- Pump 30% of blood into the ventricle
c- Blood reservoir during ventricular diastole
d- Contain receptor for many reflexes
e- Secrete atrial naturetic peptide which regulate ABP

60- Cardiac ms act as syncitium due to presence of :

a- T tubules
b- Gap junction
c- Action potential
d- Ca ions
e- Sarcoplasmic reticulum

61- Phase 4 of SAnodal potential is attritutable to :

f- An increase in K conductance

g- An increase in Na conductance

h- Decrease in Cl conductance

i- Decrease in Ca conductance

j- Simultaneous increase in K and Cl conductance

62- During which phase of ventricular action potential is the conductance of Ca is highest :

f- Phase 0

g- Phase 1

h- Phase 2

i- Phase 3

j- Phase 4

63- In phase 0 of sanodal action potential , which of the following occurs :

a- Inward ca current through L type Ca channel

b- An increase in K conductance

c- Increase in Na conductance

d- Decrease in Cl conductance

e- Simultaneous increase in K and CL

64- Currents caused by opening of which of the following channels contribute to repolarization (phase 3) of action potential of the ventricular ms fibers :

a- Na channels
b- Cl channels
c- Ca channels
d- K channels
e- HCO_3 channels

65- Resting membrane potential of SAnode is :

a- -70 mv
b- -85 mv
c- -40
d- -100
e- -55

66- Physiologic function of relatively slow conduction through AV node to allow sufficient time for :

a- Run of blood from aorta to the arteries
b- Venous return to atria
c- Filling of the ventricle
d- Contraction of ventricles
e- Repolarization of ventricles

67- Which of the following increase conductivity of cardiac ms :

a- Digitalis

b- Sympathetic stimulation

c- Parasympathetic stimulation

d- Acidosis

e- Sever hyperkalemia

68- The action potential spread to the interior of cardiac ms along membrane of :

a- Z line

b- M line

c- Transverse (T tubules)

d- Longitudinal tubules (SR)

e- Terminal cistern

69- Myocardial contractility is best correlated by intracellular conc. Of

a- Na

b- K

c- Ca

d- Cl e)Mg

70- Which of the following has negative inotropic effect on heart :

a- Increased heart rate

b- Sympathetic stimulation

c- Norepinephrine

d- Acetylcholine

e- Digitalis

71- Parasympathetic produce all the following except :

a- Decrease rate of discharge from SAnode

b- Coronary VC

c- Increase ventricular contractility

d- Decrease atrial contractility

72- Which of the following has the highest conduction velocity :

a- SAnode

b- Atrial ms

c- Ventricular ms

d- AV node

e- Purkinje fiber

73- In heart , parasympathetic stimulation :

a- Increases rate of discharge from SAnode

b- Decreases coronary blood flow

c- Increases ventricular contractility

d- Increases atrial contractility

e- Has no effect on SAnode