



BRAINWARE UNIVERSITY

Term End Examination 2021 - 22

Programme – Bachelor of Science in Physician Assistant
Course Name – Cardiology & Cardiac Surgical Disorders
Course Code - BPA403
(Semester IV)

Time allotted : 1 Hrs.15 Min.

Full Marks : 60

[The figure in the margin indicates full marks.]

Group-A

(Multiple Choice Type Question)

1 x 60=60

Choose the correct alternative from the following :

- (1) Which event is associated with cardiac cycle?

a) atrial systole	b) ventricular systole
c) relaxation period	d) refraction period
- (2) What is the time period for ventricular systole?

a) 0.3 sec	b) 0.1 sec
c) 0.4 sec	d) 0.5 sec
- (3) Why the relaxation period is longer than contraction period?

a) more time for the cardiac muscles to relax before contraction	b) no specific reason to it
c) so that more forceful is next contraction	d) more time for the cardiac muscles to relax before contraction and so that more forceful is next contraction
- (4) What is the most common cause of mitral stenosis?

a) Chronic rheumatic valve disease	b) Acute rheumatic fever
c) Congestive heart failure	d) Infective endocarditis
- (5) Which of the following conditions is Marfan's syndrome most commonly associated with?

a) Endocarditis	b) Restrictive cardiomyopathy
c) Arrhythmia	d) Aortic dissection
- (6) What is the best description of Eisenmenger's syndrome?

a) It occurs when a right to left shunt becomes left to right due to a build-up of pressure on the left side of the heart.	b) It is due to failure of the aorticopulmonary septum to spiral.
c) It is due to lack or aorticopulmonary septum formation.	d) An initial left to right shunt becomes right to left due to increased pulmonary blood flow and eventual right ventricular hypertrophy (RVH).
- (7) What are the classic signs of a cardiac tamponade?

a) Hypotension, muffled heart sounds, increased jugular venous distension (JVD)	b) Tachycardia, dyspnoea, fever
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- c) Bradycardia, weakness in arms, diaphoresis d) Hypertension, palpitations, chest pain
- (8) What gross histological change correlates with white blood cells' (WBCs) invasion into cardiac tissue during the first week after an MI?
- a) Yellow pallor b) Dark discoloration
c) White scar d) Red border around yellow pallor
- (9) What heart condition is Turner's syndrome associated with?
- a) Tricuspid atresia b) Truncus arteriosus
c) Coarctation of the aorta d) Patent ductus arteriosus
- (10) What do you mean by systolic BP?
- a) Force exerted on the walls during ventricular contraction b) force exerted on the walls during ventricular relaxation
c) force exerted on the walls during atrial contraction d) Force exerted on the walls during atrial relaxation
- (11) Which device is used to measure BP?
- a) electrocardiograph b) sphygmomanometer
c) pulse recorder d) Manograph
- (12) Which of these contribute to high blood pressure ?
- a) Getting a lot of Vitamin C b) Drinking a lot of alcohol
c) Getting a lot of Calcium d) Drinking a lot of water
- (13) High blood pressure is the main cause of which of the following ?
- a) Cancer b) Stroke
c) Diabetes d) Congestive heart failure
- (14) During ventricular pressure pulses, square root wave is seen in
- a) ASD b) MVPS
c) Dilated cardiomyopathy d) Constrictive pericarditis
- (15) Beck's triad seen in?
- a) Constrictive pericarditis b) Cardiac tamponade
c) LVMI d) HOCM
- (16) SI unit for measuring Blood Pressure is:
- a) Torr b) mmHg
c) kPa d) Barr
- (17) A 12-year-old boy has BP – 200/140 femoral pulse not palpable. Most likely diagnosis:
- a) Takayasu's aortoarteritis b) Renal parenchymal disease
c) Renal artery stenosis d) Co-arctation aorta
- (18) Sydenham chorea is?
- a) An abrupt and non-rhythmic involuntary movements b) Is a muscular weakness
c) Is a rhythmic voluntary movements d) Is an emotional disturbance
- (19) The minor criteria of rheumatic fever includes?
- a) Migratory arthralgia b) Carditis and valvulitis
c) Erythema marginatum d) Subcutaneous nodules
- (20) Rheumatic fever is caused by which of the following bacteria?
- a) Pseudomonas b) Staphylococcus
c) Streptococcus d) Shigella
- (21) You are seeing a 60-year-old man for the first time. He has untreated hypertension (168/106 mm Hg and blood pressure has been elevated on at least 3 occasions). There is currently no evidence of target organ dysfunction (heart, neurological, or eyegrounds). From a therapeutic perspective, what is the best initial approach?

- a) Initiate treatment with 25 mg of hydrochlorothiazide.
 c) Delay pharmacologic intervention and treat with salt restriction.
- b) Consider initiating treatment with a 2-agent combination pill.
 d) Nitrates therapy
- (22) Mean arterial pressure (MAP) is equal to?
 a) cardiac output* resistance
 c) resistance *heart rate
 b) Cardiac output*stroke volume
 d) Heart rate * pulse rate
- (23) What is the main complication of the macrophage phase (4 to 7 days) after an MI?
 a) Fibrinous pericarditis
 c) Aneurysm / Mural thrombus / Dressler's syndrome
 b) Arrhythmia
 d) Cardiac tamponade / Shunt through the ventricular wall / Mitral insufficiency
- (24) What is the most frequent etiologic agent of acute infective endocarditis in IV drug abusers?
 a) Streptococcus viridans
 c) Staphylococcus epidermidis
 b) Staphylococcus aureus
 d) Streptococcus bovis
- (25) What are the characteristics of stable angina?
 a) Chest pain that occurs with exertion and/or emotional stress
 c) Chest pain that occurs at rest
 b) Severe and crushing chest pain (>20 mins)
 d) Bradycardia
- (26) Which of these can increase your risk of high blood pressure?
 a) Obesity
 c) under weight
 b) Environmental factor
 d) High body temperature
- (27) According to the best available evidence, which one of the following lifestyle interventions for reducing primary hypertension is not likely to be effective?
 a) Dietary salt restriction
 c) Magnesium supplementation
 b) Fish oil supplementation
 d) Physical activity
- (28) In a study by Chan et al on myocardial infarction patients admitted to a local tertiary hospital, it was noted that 83% of patients younger than 45 years and 72% of patients 45 years and older with X were left untreated. What is X?
 a) Diabetes mellitus.
 c) Hyper-triglyceridemia.
 b) Hypertension.
 d) Hyperlipidemia.
- (29) Exercise can help to reduce the risk of heart disease by:
 a) Increasing the levels of HDL.
 c) Increasing the levels of LDL
 b) Reducing the levels of HDL.
 d) Increasing blood pressure.
- (30) After a myocardial infarction, the heart muscle may be damaged due to:
 a) blood trapped in the heart.
 c) nerve damage.
 b) a lazy valve.
 d) reduced blood flow to the heart.
- (31) Symptoms of a heart attack include all of the following EXCEPT
 a) blurred vision, numbness, and fever.
 c) uncomfortable pressure or sensation of fullness in the chest.
 b) pain in the chest, shoulders, neck, or arms.
 d) dizziness, fainting, sweating, or shortness of breath.
- (32) Smoking increases an individual's chance for heart disease by:
 a) decreasing your body's ability to clot blood.
 c) decreasing the amount of fat deposits around arterial walls.
 b) increasing the chance of an irregular heartbeat.
 d) decreasing heart rate and blood pressure.
- (33) Which of the following classes of drugs is most widely used in the treatment of cardiomyopathy?
 a) Antihypertensive
 c) Calcium channel blockers
 b) Beta-adrenergic blockers
 d) Nitrates
- (34) Atherosclerosis impedes coronary blood flow by which of the following mechanisms?
 a) Plaques obstruct the vein
 b) Plaques obstruct the artery

- c) Blood clots form outside the vessel wall
- d) Hardened vessels dilate to allow the blood to flow through
- (35) Which of the following groups of symptoms indicated a ruptured abdominal aneurysm?
- a) Lower back pain, increased BP, decreased RBC, increased WBC
- b) Severe lower back pain, decreased BP, decreased RBC, increased WBC
- c) Severe lower back pain, decreased BP, decreased RBC, decreased WBC
- d) Intermittent lower back pain, decreased BP, decreased RBC, increased WBC
- (36) Septal involvement occurs in which type of cardiomyopathy?
- a) Congestive
- b) Dilated
- c) Hypertrophic
- d) Restrictive
- (37) A twelve-lead Holter monitor can instantly diagnose
- a) atrial flutter
- b) supraventricular tachycardia (SVT)
- c) atrial fibrillation
- d) ventricular bradycardia
- (38) To perform the surgery, the patient is usually put on
- a) Ventilation
- b) cardiopulmonary bypass
- c) pace maker
- d) not listed here
- (39) Which treatment would be least effective for asystole?
- a) External pacemaker.
- b) Intravenous epinephrine, 10 ml. of 1:10,000
- c) Intravenous calcium gluconate, 10 ml. of 10% solution.
- d) Intravenous atropine, 0.5 mg.
- (40) Which maneuver generally is not performed early before chest compression in basic life support outside the hospital?
- a) Call for help
- b) Obtain airway.
- c) Electrical cardioversion.
- d) Ventilation.
- (41) Which is not true of cardiopulmonary resuscitation (CPR)?
- a) Closed chest massage is as effective as open chest massage.
- b) The success rate for out-of-hospital resuscitation may be as high as 30% to 60%.
- c) The most common cause of sudden death is ischemic heart disease.
- d) Standard chest massage generally provides less than 15% of normal coronary and cerebral blood flow.
- (42) A 62-year-old woman whose arrhythmia is noninducible at EP study has depressed LV function without aneurysm. The following is/are true:
- a) If her arrhythmia is ventricular tachycardia, she is not a candidate for an Automatic Implantable Cardiac Defibrillator (AICD) since it only recognizes fibrillation
- b) If an AICD is appropriate, it offers a 50% improvement in mortality compared to drug therapy
- c) Poor ventricular function is a contraindication to AICD implantation
- d) AICD should not be used for patients awaiting cardiac transplantation
- (43) In the workup of a 45-year-old man with suspected coronary artery disease, the following is/are true:
- a) Thyroid tests are included to rule out hyperthyroidism
- b) Typically positive stress ECG would show elevated ST segments
- c) Dipyridamole is a useful adjunct to thallium scanning as it increases coronary perfusion pressure
- d) Persisting defects on thallium scan indicate reversible myocardial ischemia
- (44) A 52-year-old man with chest pain and tachycardia has ECG evidence of an acute MI. The following is/are true:
- a) Of the drugs available, recombinant tPA produces better results than SK or APSAC although it is more expensive
- b) Thrombolytic therapy requires catheterization for intracoronary administration
- c) Addition of heparin and antiplatelet drugs produces no incremental benefit
- d) Thrombolytic therapy should be considered immediately since the benefit is greater the earlier it is

- (45) Permanent artificial hearts are being developed that are electrically powered. Wireless techniques are used to transmit the electrical energy across the body wall using the principle of:
- Infrared sensor.
 - Inductive coupling.
 - High-pressure liquid chromatography (HPLC).
 - Infrared spectroscopy.
- (46) Which of the following are the most frequent complications of intra-aortic balloon counterpulsation?
- Stroke.
 - Limb ischemia.
 - Arrhythmias.
 - Aortic thrombosis.
- (47) Pacemaker-mediated tachycardia is caused by:
- Sensing of retrograde atrial activation.
 - Inappropriate ventricular sensing.
 - Lead fracture.
 - Pacemaker induction of atrial fibrillation.
- (48) In adults the most common cause of acquired complete heart block is:
- Ischemic heart disease.
 - Sclerodegenerative disease.
 - Traumatic injury.
 - Cardiomegaly.
- (49) Which of the following is generally associated with mitral stenosis without regurgitation?
- Pulmonary hypertension.
 - Pulmonary edema.
 - Left ventricular dilatation.
 - An opening snap after the second heart sound.
- (50) Which of the following are not true?
- Tricuspid regurgitation due to annular dilatation alone generally does not require valve replacement.
 - Mitral valve replacement with either a bioprosthesis or a mechanical valve requires warfarin anticoagulation.
 - Tricuspid valve replacement is generally an indication for using a tissue valve.
 - Chronic renal failure is a relative indication for tissue valves.
- (51) Adequate flow during cardiopulmonary bypass is best indicated by:
- Systemic blood pressure of 90/50 mm. Hg.
 - Arterial PO₂ of 230 mm. Hg.
 - Central venous pressure of 1 mm. Hg.
 - Mixed venous hemoglobin saturation of 78%.
- (52) Which of the following does not typically occur during the first few minutes of cardiopulmonary bypass?
- Interstitial fluid increases.
 - Blood flow becomes nonpulsatile.
 - Platelet count decreases.
 - Complement is activated.
- (53) All are neurological complications of hypertension except:-
- CVA/Stroke
 - Encephalopathy
 - Subarachnoid Haemorrhage
 - Demyelinating Neuropathy
- (54) Erythrocyte Sedimentation Rate is elevated in all except:-
- Pregnancy
 - Inflammation
 - CANCER
 - Congestive heart failure
- (55) Which of the following is a cyanotic congenital heart disease?
- Coarctation of Aorta
 - Patent Ductus Arteriosus
 - Ventricular Septal Defect
 - Tetralogy Of Fallot
- (56) Which of the following microorganism is implicated in etiology of Rheumatic heart disease?
- Bacillus Anthracis
 - Salmonella Typhi
 - Beta haemolytic streptococcus
 - Staphylococcus
- (57) Which of the following is not a manifestation as per Jones criteria for diagnosis of rheumatic heart disease?
- Carditis
 - Arthritis
 - Chorea
 - Leucocytosis
- (58) Which of the following statement is false?

- a) Stable angina can be initiated by excitement.
- b) Stable angina is relieved by sublingual nitrates
- c) Prinzmetals variant angina is due to coronary arterial spasm.
- d) Prinzmetals angina occurs at rest.

(59) Which of the following does not qualify as acute coronary syndrome?

- a) Prinzmetals angina
- b) STEMI
- c) NSTEMI
- d) Stable angina

(60) Which of the following is not a cardiac biomarker?

- a) Troponin
- b) CPK (MB)
- c) LDH
- d) GGT