

**POST GRADUATE DIPLOMA IN CLINICAL
CARDIOLOGY (PGDCC)**

00065

Term-End Examination

June, 2012

MCC-005 : COMMON CARDIOVASCULAR DISEASES-III

Time : 2 hours

Maximum Marks : 60

Note :

- (i) *There will be multiple choice type of questions in this examination which are to be answered in OMR Answer Sheets.*
- (ii) *All questions are **compulsory.***
- (iii) *Each question will have four options and only one of them is correct. Answers have to be marked in figures in the appropriate rectangular boxes corresponding to what is the correct answer and then blacken the circle for the same number in that column by using HB or lead pencil and not by ball pen in OMR Answer Sheets.*
- (iv) *If any candidate marks more than one option it will be taken as the wrong answer and no marks will be awarded for this.*
- (v) *There will be 90 questions in this paper and each question carries equal marks.*
- (vi) *There will be no negative marking for wrong answers.*
- (vii) *No candidate shall leave the examination hall at least for one hour after the commencement of the examination.*

1. Intravenous preparation of beta blocker is available with
 (1) Carvedilol (2) Bisoprolol (3) Esmolol (4) Nebivolol
2. All of the following are loop diuretics except
 (1) Furosemide (2) Bumetanide (3) Torsemide (4) Indapamide
3. Which antiarrhythmic drug shortens QT interval
 (1) Quinidine (2) Amiodarone (3) Phenytoin (4) Sotalol
4. Which one of the following is not a lipid modifying drug
 (1) Atorvastatin (2) Rosuvastatin (3) Nicotinic Acid (4) Ranolazine
5. Which one of the following drug is contraindicated in Post Myocardial Infarction Left ventricular dysfunction ?
 (1) Ramipril (2) Nifedipine (3) Torsemide (4) Metoprolol
6. Serum Cardiac marker of acute myocardial infarction of less than 4 hours duration
 (1) Troponin (2) Myoglobin
 (3) Creatinine Phosphokinase MB (4) Lactate Dehydrogenase
7. Which one is not a risk factor for coronary artery disease ?
 (1) Hypertension (2) Diabetes
 (3) Hyperthyroidism (4) Microalbuminuria or GFR < 60 mL / min
8. Which one is not a cause of resistant hypertension
 (1) Hyperaldosteronism (2) Obstructive sleep apnoea
 (3) Left ventricular hypertrophy (4) Heavy alcohol intake
9. Hemoptysis due to pulmonary embolism occurs after how much time of embolism ?
 (1) Few minutes (2) Few hours (3) Few Days (4) After 2 weeks
10. Syncope is uncommon in :
 (1) Mitral stenosis (2) Mitral regurgitation
 (3) Aortic stensis (4) Aortic Regurgitation
11. Fatigue in a patient of chronic congestive heart failure may be due to
 (1) Low output state (2) Beta blocker therapy
 (3) Hypokalemia due to diuretic therapy (4) All of the above
12. Coma as a result of heart disease
 (1) Is common (2) Is Uncommon
 (3) Is present very often (4) Almost never occurs
13. Which one of the following will have regular rhythm with a normal rate
 (1) Slow atrial fibrillation (2) Monomorphic ventricular tachycardia
 (3) Atrial flutter with 4 : 1 conduction (4) Nodal rhythm

14. Poor progression of 'R' wave in precordial lead is present in all except :
- (1) Anterior Myocardial Infarction
 - (2) Complete LBBB
 - (3) Type B WPW Syndrome
 - (4) Cor Pulmonale
15. The QT interval represents the :
- (1) AV conduction time
 - (2) Refractory period of ventricles
 - (3) Depolarization and repolarization of ventricles
 - (4) Atrial repolarization time
16. Which one is commonest cause of multifocal atrial tachycardia
- (1) Acute myocardial infarction
 - (2) Hypercalcaemia
 - (3) Chronic obstructive airway disease
 - (4) Quinidine therapy
17. QTc is prolonged in
- (1) Hypocalcaemia
 - (2) Hypercalcaemia
 - (3) Digitalis toxicity
 - (4) After exercise
18. The left bronchus is recognized radiologically as
- (1) Longer, narrower, and more horizontal
 - (2) Shorter, wider and more vertical
 - (3) Longer, wider and more horizontal
 - (4) Shorter, narrower and more vertical
19. Mitral annular calcification - which one is not true :
- (1) Degenerative change in the mitral annulus
 - (2) Always due to rheumatic mitral valve disease
 - (3) May not cause significant haemodynamic change
 - (4) May be associated with aortic valve calcification
20. Which of the following indicate warning sign during treadmill test ?
- (1) Chronotropic incompetence
 - (2) Fall of Blood pressure while walking on treadmill
 - (3) Isolated VPC during recovery
 - (4) Chest pain with ST depression of > 0.5 mm
21. False positive exercise ECG is found in all except
- (1) Digitalis
 - (2) Phenothiazines
 - (3) WPW syndrome
 - (4) Hypokalemia
22. The most vascular area of human heart is
- (1) Apex of the heart
 - (2) Diaphragmatic surface
 - (3) Septum
 - (4) Anterolateral wall

23. Which one is not a component of tetralogy of Fallot ?
 (1) Right ventricular hypertrophy (2) Aortic override
 (3) Left ventricular hypertrophy (4) Ventricular septal defect
24. Which congenital heart disease is common in Down syndrome ?
 (1) Pulmonary stenosis (2) Endocardial cushion defect
 (3) Coarctation of aorta (4) Patent ductus arteriosus
25. Symptom and signs of heart failure without myocardial failure is found in
 (1) Cor - pulmonale (2) Chronic constrictive pericarditis
 (3) Infective endocarditis (4) Aortic aneurysm
26. Thickened pericardium without constriction may be found in all except
 (1) Tubercular pericarditis (2) Rheumatic heart disease
 (3) Sarcoidosis (4) Post mediastinal pericarditis
27. Diastolic heart failure is found in all except
 (1) Hypertensive heart disease (2) Hypertrophic cardiomyopathy
 (3) Effuso - constrictive pericarditis (4) Aortic stenosis
28. First sound is loud in all except
 (1) Mitral stenosis (2) Sinus tachycardia
 (3) Viral myocarditis (4) WPW Syndrome
29. All are the major criteria of acute rheumatic fever except
 (1) Fever (2) Carditis
 (3) Chorea (4) Subcutaneous nodule
30. In ischemic heart disease the most significant predictor of long term survival is
 (1) Extent and number of blocked arteries (2) Left Ventricular ejection fraction
 (3) Previous myocardial infarction (4) Number of coronary risk factors
31. Which one of the following is not a fibrinolytic agent
 (1) Streptokinase (2) Tenecteplase (3) Abciximab (4) Alteplase
32. In hypertrophic obstructive cardiomyopathy the obstruction is caused by
 (1) Asymmetrical septal hypertrophy (2) Systolic anterior motion of mitral valve
 (3) Subaortic muscle bridge (4) Small left ventricle
33. Libman sack endocarditis is due to
 (1) Fungal infection of heart valve
 (2) Bacterial infection of heart valve
 (3) Noninfective vegetation in heart in collagen disease
 (4) In HIV infection of heart

34. The common valve affected in precordial blunt trauma is :
 (1) Aortic valve (2) Mitral valve (3) Pulmonary valve (4) Tricuspid valve
35. During pregnancy hypertension is diagnosed when the blood pressure is more than
 (1) 130/80 mm Hg (2) 140/90 mm Hg
 (3) 150/90 mm Hg (4) 160 /95 mm Hg
36. The commonest association of coronary artery disease in young women is
 (1) Obesity (2) Diabetes mellitus
 (3) Hypothyroidism (4) Hypertension during pregnancy
37. Which of the following statements is incorrect ?
 (1) Smoking is an important risk factor for coronary artery disease in women
 (2) Hormone replacement therapy protects women from coronary artery disease
 (3) Low HDL - cholesterol and high triglyceride are important risk factors
 (4) Rheumatoid arthritis may be an important risk factor for women
38. Right ventricular infarction is diagnosed clinically by
 (1) Hypotension, elevated JVP, Hepatic congestion
 (2) Hypotension, elevated JVP, pulmonary congestion
 (3) Hypotension, atrial fibrillation, loud P2
 (4) Normotension, elevated JVP, pulmonary congestion
39. All except one are mechanical complication of Acute anterior myocardial infarction
 (1) Ventricular septal defect (2) Acute mitral regurgitation
 (3) Left atrium rupture (4) Ventricular free wall rupture
40. The commonest organism of late onset prosthetic valve endocarditis is
 (1) Streptococci (2) Staphylococci
 (3) Gram negative bacilli (4) Fungi
41. Which one is oral direct thrombin inhibitor ?
 (1) Argatroban (2) Dabigatran (3) Warfarin (4) Bivalirudin
42. Williams syndrome consists of :
 (1) Supravalvular aortic stenosis (2) Elfin facies
 (3) Microdontia (4) All of the above
43. Continuous murmur is found in all except
 (1) Patent ductus arteriosus (2) Large ventricular septal defect
 (3) Rupture of sinus of valsalva (4) Coronary arteriovenous fistula
44. All except which one are features of Ebstein anomaly :
 (1) Apical displacement of septal leaflet of tricuspid valve
 (2) Dilated right atrium
 (3) Pulmonary hypertension
 (4) Cyanosis

45. Aortic stenosis with complete heart block, normal ejection fraction (EF 64%) should be treated with
- (1) VVIR Pacemaker
 - (2) DDDR Pacemaker
 - (3) AAI Pacemaker
 - (4) DDD Pace maker with resynchronization therapy
46. Following statements about atrial septal defects are true except
- (1) ASD occurs as an isolated anomaly in 5-10 percent of all CHDs
 - (2) The systolic heart murmur in ASD is because of left to right shunt at atrial level
 - (3) Diastolic murmur at the lower left sternal border could be because of increased flow through the tricuspid valve
 - (4) If left untreated, CHF and pulmonary hypertension may develop in the third or fourth decade of life
47. Following statements about Atrial Septal Defects are true except
- (1) Mild to moderate Cardiac enlargement and prominence of the main and branch pulmonary arteries are characteristic
 - (2) The mean QRS axis in the frontal plane is 90° degrees or greater in 60% of patients
 - (3) Second heart sound is characteristically widely split and fixed.
 - (4) Abnormal left ward 'P' axis is often present in Premium type of ASD.
48. Following statements about Ventricular Septal Defects are true except
- (1) Ventricular septal Defect account for 15 - 20 percent of all CHDs
 - (2) Ventricular septum may be divided into a large membranous portion and a small muscular portion
 - (3) The muscular septum has three components the inlet, the trabecular and the outlet septum
 - (4) The trabecular septum is further divided into central, marginal and apical portions
49. Following statements about Ventricular Septal Defects are true except
- (1) The magnitude of the shunt is determined by the size of VSD and the level of pulmonary vascular resistance
 - (2) In VSD the LV starts contracting before RV and high pressure gradient is maintained between two ventricles throughout systole-hence the pansystolic murmur
 - (3) Pansystolic murmur end just before A_2
 - (4) P_2 is delayed in large VSD with left to right shunt
50. Following statements about PDA are true except :
- (1) PDA accounts for 5 - 10 percent of all CHDs
 - (2) Usually functional closure of the ductus occurs between 2 - 3 weeks
 - (3) It usually courses from the origin of the left pulmonary artery below to the lower aspect of the aortic arch just beyond the level of the origin of the left subclavian artery above
 - (4) Recurrent branch of the left-vagus nerve circles around its lateral and inferior aspects

51. Following statements about PDA are true except
- (1) PDA is more common in procedure infants especially those with birth asphyxia or respiratory distress
 - (2) Exogenous PGE1 can close the ductus in many premature infants in whom persistent potency is disadvantageous
 - (3) The typical murmur is continuous or machinery murmur
 - (4) Differential cyanosis is a hall mark of PDA with elevated pulmonary vascular resistance and right to left shunt
52. Following statements about Aorta Pulmonary Window are true except
- (1) This consists of communication between the adjacent walls of the ascending aorta and pulmonary trunk
 - (2) The pathophysiology of Ab window is similar to that of a large PDA
 - (3) A moderately restrictive Ab window generates a systolic murmur rather than continuous murmur
 - (4) Apical mid diastolic murmur represents increased flow across the mitral valve
53. Following statements about congenital valvular aortic stenosis in children and adolescents are true except
- (1) An early systolic ejection click at the apex is characteristic and serves to distinguish valvular aortic stenosis from other forms of left ventricular obstruction
 - (2) Aortic stenosis is much more common in females than males with female to male ratio of 4 : 1
 - (3) A measured pulse pressure < 20 mm suggests severe aortic stenosis
 - (4) Absence of thrill suggests a peak systolic pressure gradient below 30 mm Hg
54. Following statements about congenital Pulmonary stenosis are true except
- (1) Pulmonary stenosis may be valvular ; sub valvular or supra valvular
 - (2) Valvular pulmonary stenosis with intact ventricular septum is usually characterized by a dome shaped stenosis of the pulmonary valve and less commonly by dysplasia of the valve
 - (3) Systolic click with expiration, that disappears with inspiration heard at the left upper sternal harder is the hall mark of valvular stenosis
 - (4) Interval between S_1 and the click varies directly with the degree of Pulmonary stenosis
55. Following statements about coarctation of the Aorta are true except
- (1) Among all individuals born with coarctation, approximately half present within the first month or two if life with heart failure
 - (2) The characteristic Lesion is deformity of the media of the aorta that involves the anterior, superior and posterior wall
 - (3) Notching of the superior margin of the ribs on chest x-ray can be seen in older children
 - (4) A figure-three configuration of the left margin of aorta at the level of the coarctation may be seen in the over penetrated chest X-ray of the older children adolescents.

56. Following statements of coarctation of the Aorta are true except
- (1) The murmur from coarctation is medium pitched and systolic best heard posteriorly in the interventricular area
 - (2) A systolic pressure difference between the two arm suggests that the origin of one subclavian artery is at or below the obstruction
 - (3) In older children, ECG is usually normal or may indicate left ventricular and left atrial hypertrophy
 - (4) Two dimensional echocardiographic imaging from Subxiphoid view permit visualization of the coarctation and detection of anatomic variations
57. Following statements about cyanotic spells in the setting of TOK are true except
- (1) It occurs in young infants (usually after two months and rarely after two years)
 - (2) Consist of working of cyanosis
 - (3) Any event that suddenly lowers the systemic vascular resistance may initiate the spell
 - (4) Auscultation reveals increase of pulmonary ejection murmur during cyanotic spell
58. Following statements about cyanotic congenital heart diseases are true except
- (1) Hypoxaemia increases renal production of erythropoietin
 - (2) Secondary erythrocytosis should be present in all cyanotic patients
 - (3) Erythrocytosis may cause hyperviscosity syndrome
 - (4) Haemostatic abnormalities fortunately have not been documented in cyanotic patients
59. Following statements about spontaneous closure of septal defects are true except
- (1) Younger patients have a higher likelihood of spontaneous closure of defects
 - (2) Larger defects have less likelihood of spontaneous closure
 - (3) Primum and sinus venosus type of ASD, if less than 8 mm close before the age of 3 years
 - (4) Muscular VSDs have the highest likelihood of spontaneous closure
60. Following cardiac lesions produce cyanotic spells except
- (1) Tetralogy of Fallot
 - (2) Total Anomalous Pulmonary Venous Convection
 - (3) Double outlet right ventricle with ventricular septal defects and pulmonary stenosis
 - (4) Tricuspid Atresia with Pulmonary stenosis
61. Following statements about Vaughan William classification of drugs are true except
- (1) Class I Drugs - predominantly block the fast sodium channel
 - (2) Class I A Drugs - reduce V max and shorter action potential
 - (3) Class I B Drugs - do not reduce V max but shorten action potential
 - (4) Class I C Drugs - reduces V max ; primarily slow conduction and can prolong refractoriness minimally.
62. Following drugs have not been classified in four class of drugs - Class I to Class IV as per Vaughan William classification except
- (1) Adenosine
 - (2) Digoxin
 - (3) Verapamil
 - (4) Magnesium
63. Following drugs are likely to depress spontaneous discharge of normal sinus node except
- (1) Verapamil
 - (2) Propranolol
 - (3) Amiodarone
 - (4) Disopyramide

64. Following statements about proarrhythmia are true except
- (1) Proarrhythmic events occur in 25 - 30 percents of patients
 - (2) It can be manifested as an increase in frequency of pre existing arrhythmia
 - (3) It can be manifested as sustaining of previously non-sustained arrhythmia
 - (4) It can be manifested in development of arrhythmia that the patient has not previously experienced
65. Following statements about Amiodarone are true except
- (1) Displays activity of all four classes of antiarrhythmic agents with major effect of homogenous shortening of action potential
 - (2) It is a broad spectrum antiarrhythmic drug
 - (3) It is effective for PSVT - including accessory pathway mediated tachycardia
 - (4) It is moderately effective in converting atrial flutters and fibrillation to sinus rhythm
66. Following statements about side effects of Amiodarone are true except
- (1) Adverse effects are reported by about 75% of patients treated with Amiodarone for 5 years
 - (2) Advance effects are more common when treaty is continued for long term and at higher doses
 - (3) Most adverse effects are irreversible
 - (4) Of the noncardiac adverse reactions; pulmonary toxicity is the most serious
67. Following statements about Ibutilide are true except
- (1) Ibutilide is a useful drug for acute treatment of atrial flutter and fibrillation and their prevention
 - (2) It should not be given in the presence of QTC interval longer than 440 milliseconds
 - (3) It should not be given when uncorrected hypokalemia or bradycardia exist
 - (4) Ibutilide prolongs accessory pathway refractoriness and can temporarily slow the ventricular rate during pre excited atrial fibrillation.
68. Following statements about Adenosine are true except
- (1) It is naturally occurring nucleoside
 - (2) Adenosine is removed from the vascular space by vascular endothelium
 - (3) Atrial fibrillation is occasionally observed with adenosine administration
 - (4) Dose of Adenosine is reduced if the patient is being treated with theophylline
69. Following statements about Digoxin are true except
- (1) It is well absorbed orally and is mobilized in the liver
 - (2) It increases parasympathetic tone
 - (3) Digoxin toxicity is enhanced by low potassium levels
 - (4) Digoxin is not very effective in terminating episodes of acute or recent onset atrial fibrillation
70. Following statements about Magnesium are true except
- (1) The precise mechanism by which it ameliorates arrhythmia is unclear but it has no influence on sodium potassium pump in the cell membrane
 - (2) It is a drug of choice for emergency treatment of Torsade de pointes
 - (3) 1 - 2 gms of Magnesium sulphate can be infused rapidly over several minutes
 - (4) This toxicity is exacerbated in renal failure

71. A pacemaker that sensed the atria and paced the ventricle in a triggered mode with no rate response or multiple pacing; as per NASPE/BPEG code will be designated as
 (1) VATOO (2) AVTOO (3) AOVOTO (4) ATVOO
72. Following can interfere with functioning of pacemaker except
 (1) Microwave oven (2) Arc Welding equipment
 (3) MRI Scanners (4) Radiation Therapy
73. Following doctor is considered to the father of Open Heart surgery
 (1) John Lewis (2) John Gibbon
 (3) Walton Lillehei (4) Christian Barnard
74. A patient has reported with left thoracotomy scar. He could have undergone following closed heart surgery procedures except
 (1) Ligation of PDA (2) Repair of Coarctation of Aorta
 (3) Pott Shunt (4) Waterston Shunt
75. Following are the ideal characteristics of blood pump except
 (1) It should be able to pump upto three litres of blood per minute
 (2) It should not damage cellular and acellular components of blood
 (3) All parts coming in contact with blood should have a smooth surface
 (4) It should assure no turbulence and no stagnation
76. Following type of oxygenator is commonly used as a part of cardiopulmonary bypass circuit
 (1) Film Oxygenator (2) Disc Oxygenator
 (3) Bubble Oxygenator (4) Membrane Oxygenator
77. Following statements are true when performing cardiopulmonary bypass except -
 (1) During perfusion, activated clotting time should be below 400 seconds for safe cardiopulmonary bypass
 (2) Patient should be fully heparinised before the start of cardiopulmonary bypass
 (3) At the end of surgery, protamine sulphate is given to neutralize the effect of Heparin
 (4) The usual dose is 1 to 1.5 milligram of protamine sulphate for each milligram of heparin administered
78. Intra aortic Ballon is contraindicated in following except
 (1) Severe Aortic Regurgitation (2) Severe Mitral Regurgitation
 (3) Aortic Aneurysm (4) Severe Aorto iliac disease
79. Following statements about intra aortic ballon are true except
 (1) Tip of the ballon should be placed below the left subclavian artery
 (2) An inert gas like helium is pumped into ballon
 (3) Ballon is inflated during systole
 (4) Synchronisation is achieved by ECG Trigger or Aortic pressure wave

80. Following statements about long term patency of conduits to bypass blocks in coronary arteries are true except
- (1) At the end of ten years, only 50 percent of saphenous vein grafts are patent
 - (2) When LIMA is anastomosed to LAD which has more than 70 percent block, patency at the end of two years is 70 percent
 - (3) Long term patency of free internal mammary graft is slightly lower than in Situ internal mammary artery graft
 - (4) Patency of radial artery graft is less than that of IMA but better than venous graft
81. Following statements about mechanical revascularisation are true except
- (1) Assessment of viability of myocardium will help in identifying patients who will benefit
 - (2) Stenosis of 30 percent or more of the left main coronary artery is an indication for angioplasty/CABG
 - (3) If the patient has significant block in proximal LAD (proximal to first septal and first diagonal) and proximal circumflex it will amount to left main disease
 - (4) Patients with triple vessel disease and impaired left ventricular function do better with mechanical revascularisation compared to medical treatment.
82. Of the below mentioned arrhythmics, following is the most common after CABG :
- (1) Atrial Fibrillation
 - (2) Atrial Flutter
 - (3) PSVT
 - (4) VT
83. Following prosthetic valves have tilting disc except :
- (1) Bjork - Shiley
 - (2) Chitra
 - (3) Medtronic Hall
 - (4) Starr-Edward
84. Following valve replacement, following statements about post - operative anticoagulation are true except
- (1) Life long anticoagulation is required for all patients with mechanical prosthetic valve
 - (2) In the setting of bioprosthetic valve ; the risk of thromboembolism is limited to first three months
 - (3) Patients with mitral prosthetic valve in sinus rhythm need lower level of anticoagulation compared to aortic valve
 - (4) In patients who had thromboembolism previously, addition of low dose aspirin is found to be useful along with anticoagulation
85. Following statements about complications of prosthetic valve are true except
- (1) Ventricular rupture could be one of the complication of mitral valve replacement
 - (2) Valve thrombosis can cause sudden deterioration of patients haemodynamics
 - (3) Presence of incompetence rules out possibility of 'struck' valve
 - (4) Mechanical valves may cause haemolysis and related anaemia

86. Following are contraindications for Ballon Mitral Valvotomy except
- (1) Heavy calcification in the commissures
 - (2) Moderate Mitral Regurgitation
 - (3) Severe Pulmonary Hypertension
 - (4) LA Thrombus
87. As per ACC/AHA latest guidelines, following are Class I indications for aortic valve replacement except
- (1) Symptomatic patient with severe AS
 - (2) Asymptomatic patient with severe AS with mean gradient 60 mm across aortic valve
 - (3) Asymptomatic patient with severe AS undergoing CABG
 - (4) Asymptomatic patient with severe AS with ejection fraction less than 0.50
88. As per De Bakey classification of acute aortic dissection, following is the site of origin and extent of De Bakey II type of aortic dissection
- (1) Ascending aorta extending to arch or beyond
 - (2) Ascending aorta confined to ascending aorta
 - (3) Descending aorta distal to left subclavian artery and confined to it
 - (4) Descending aorta distal to left subclavian artery and extends into abdominal aorta
89. Following statements about ventricular aneurysm are true except
- (1) 95 percent of ventricular aneurysms occur after transmural myocardial infarction
 - (2) 85 percent of them are on the posterolateral wall of LV
 - (3) A transmural infarct is the prerequisite for the formation of post infarct aneurysm
 - (4) False left ventricular aneurysm can develop after acute rupture of an infarct
90. Following statement about aortic aneurysms are true except
- (1) At least 50 percent of the patients with early thoracic aortic aneurysms are asymptomatic and are picked up during investigations
 - (2) In asymptomatic cases; surgery is indicated when diameter of ascending aorta is 4 cms or larger
 - (3) Rapid rate of expansion and onset of symptoms are other pointers to take into consideration while deciding about timing for surgery
 - (4) Aortic diameter is the most important risk factor for aneurysm rupture or dissection
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