

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

01033

**Term-End Examination**

**June, 2014**

**MCC-007 : CARDIO-VASCULAR RELATED DISORDERS**

*Time : 2 hours*

*Maximum Marks : 60*

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*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) Erase completely any error or unintended marks.*
- (vi) There will be 90 questions in this paper and each question carries equal marks.*
- (vii) There will be no negative marking for wrong answers.*
- (viii) No candidate shall leave the examination hall at least for one hour after the commencement of the examination.*

1. A 22 year pregnant lady presented in clinic in 2<sup>nd</sup> trimester, first time, for routine checkup. On examination pulse rate is 90 beats/min, blood pressure 112/70 mmHg. Auscultation reveals soft mid systolic murmur at lower left sternal border. Echocardiography shows mild dilatation of cardiac chambers with trivial MR and small pericardial effusion. These findings are suggestive of :
  - (1) Peripartum cardiomyopathy
  - (2) Valvular disease
  - (3) Normal Phenomena
  - (4) Tachycardia induced cardiomyopathy
  
2. A 32 year old lady presented with 20 week of pregnancy with complains of sudden onset of palpitation with dyspnoea for one hour. There is no history of any drug intake. ECG shows supraventricular tachycardia. Hemodynamics are stable. There is no history of bronchial asthma. Of the following choices most appropriate therapy is :
  - (1) Adenosine
  - (2) Verapamil
  - (3) Electrical cardioversion
  - (4) Digoxin
  
3. A 32 year old lady presented in 2<sup>nd</sup> trimester with complaint of exertional dyspnoea and rapid heart action. She has history of Rheumatic fever at age of 12 year. Her heart rate is 80 beats/min and blood pressure 120/80 mmHg. Her cardiac impulse is displaced laterally and is prominent. On auscultation, loud S1, single S2, opening snap, a holodiastolic murmur at the apex and soft diastolic blowing murmur along left sternal border are heard. Isometric handgrip augments the diastolic murmurs. The most likely valve lesions are :
  - (1) MS and MR
  - (2) MS and AR
  - (3) MS and PR
  - (4) TS and MR
  
4. A 32 year old woman is brought to hospital because of extreme fatigue, exertional dyspnoea and chest pain from 15 days. She has 4 months twin babies. Past medical history is unremarkable. There is no family history of cardiac illness. On examination, her blood pressure is 90/60 mmHg and heart rate 112 beats/min. Auscultation reveals bilateral rales and apical S3 gallop. Echocardiogram shows dilation of all cardiac chambers with 20% LVEF, mild pericardial effusion, mild MR and mild TR. The most likely diagnosis is :
  - (1) Pulmonary embolism
  - (2) CAD
  - (3) Peripartum cardiomyopathy
  - (4) Tachycardia induced cardiomyopathy

5. A 30 - year old lady presented with 34<sup>th</sup> week of pregnancy with complaint of severe central chest pain for one hour. ECG shows significant ST elevation in V1 to V4 leads. Which of the following statement is false regarding this patient ?
- (1) Myocardial Infarction in pregnancy occurs most often in third trimester
  - (2) Most likely etiology of her infarction is coronary spasm
  - (3) Her prognosis would be substantially better if this event had occurred in first trimester
  - (4) Aspirin should be administered immediately
6. A nulliparous woman presented at 24 weeks of gestation. Past medical history is unremarkable. On routine checkup, pulse rate 88/min., blood pressure 150/90 mmHg with proteinuria 50 mg/24hr. No history of seizures. Most probable diagnosis is :
- (1) Preeclampsia
  - (2) Eclampsia
  - (3) Gestational hypertension
  - (4) Chronic hypertension
7. A young lady presented with complaint of exertional dyspnea. She does not give any history of angina, orthopnoea, PND, odema, cyanosis or syncope. Clinical examination shows, Pulse rate 80 beats/min, regular ; blood pressure = 134/76 mmHg ; left parasternal heave, systolic pulsation of pulmonary artery in 2<sup>nd</sup> left intercostals space, ejection click, loud P2, short systolic murmur in pulmonary area and Tricuspid regurgitation murmur. Echocardiogram shows, PAP is 48 mmHg. Which statement is wrong ?
- (1) This lady is advised against pregnancy
  - (2) If pregnancy occurs, cesarean delivery under general anesthesia is recommended
  - (3) Pregnancy is associated with high incidence of prematurity
  - (4) There is increased risk of thromboembolism
8. A 24 year old lady is a diagnosed case of Marfans syndrome. Which statement is wrong regarding her :
- (1) Risk of aortic dissection during pregnancy is increased if aortic root diameter > 4 cm.
  - (2) Beta blockers should be administered unless contraindicated.
  - (3) Periodic echocardiographic surveillance every 6 to 8 weeks is recommended to monitor the mother's aortic root size.
  - (4) If aortic dilatation > 4 cm vaginal delivery is advisable.



13. A patient presented with suspicion of pulmonary embolism. False statement regarding diagnosis of pulmonary embolism :
- (1) D-dimer is commonly elevated in patient with PE
  - (2) Pulmonary infarction due to PE can be visualized on chest X-ray
  - (3) ABG measurement is often unhelpful for diagnosis
  - (4) A normal electrocardiogram exclude PE
14. A 26 year old previously healthy woman presents with sudden shortness of breath. The physical examination demonstrates a normotensive patient with tachycardia and tachypnoea. Which of the following investigations would be most useful to exclude the diagnosis of pulmonary embolism ?
- (1) Normal cardiopulmonary examination
  - (2) A normal electrocardiogram
  - (3) Normal ABG
  - (4) Normal computed tomography
15. A 16 years old girl presented with complaint of chest pain with breathlessness on physical activity, easy fatigability and hoarseness of voice. On physical examination, distended neck veins, left parasternal heave, a right sided S3 gallop, loud P2, ejection click and flow murmur in pulmonic area and mild hepatomegaly are present. Echocardiography shows dilated RA and RV, thickened interventricular septum with mean pulmonary artery systolic pressure of 64 mmHg. Treatment can include all except :
- (1) Bosentan            (2) Digoxin            (3) Beta blockers    (4) Diuretics
16. Which of the following statement is most appropriate regarding Primary pulmonary hypertension ?
- (1) Almost all patients develop an anginal type of chest pain along with breathlessness
  - (2) Sudden death is a potential complication in patients with severe PAH
  - (3) ECG sometimes shows RAD and RVH
  - (4) First heart sound intensity increased

17. A pregnant woman presented in first trimester with complaint of breathlessness. She is known case of Mitral stenosis. Echocardiographic examination showed severe mitral stenosis with Wilkins score of 8. The best management options at the appropriate time is :
- (1) Percutaneous balloon mitral valvuloplasty
  - (2) Medical management
  - (3) Mitral valve replacement
  - (4) Mitral valve repair
18. A 62 year old male, weight 63 kg, got admitted in emergency department as a case of pulmonary embolism. With other measures, bolus of 5000 U of UF heparin is given and continuous infusion of UF heparin is started (8 U/kg/hr). After 6 hour, his APTT is 65 sec. The next step regarding heparin infusion :
- (1) Decrease infusion rate by 2 U/kg/hr
  - (2) No change
  - (3) 40 U bolus, then increase by 2 U/kg/hr
  - (4) 80 U bolus, then increase by 4 U/kg/hr
19. A 65 year old male presented with acute onset of shortness of breath 10 days after prostate surgery. He is known case of CAD. He is diagnosed as a case of pulmonary embolism. What is wrong regarding oral anticoagulation with Warfarin therapy ?
- (1) Warfarin is recommended for indefinite duration
  - (2) INR should be maintained between 2.0 - 3.0
  - (3) Concomitant medications with antiplatelet effects may increase the bleeding risk without increasing the INR
  - (4) Green leafy vegetables have vitamin K and increase the INR
20. A 25 year old woman at 22 weeks' gestation comes to the physician for a routine prenatal examination. She is hypertensive and urine analysis shows mild proteinuria. The physician advises rest and conservative medical care. Which of the following complications is most likely to lead to maternal death ?
- (1) Cerebral edema
  - (2) Adult respiratory distress syndrome
  - (3) Convulsions
  - (4) Hemolysis

21. A 70 year old man presents with Acute shortness of breath. He is on bed from 1 month after suffering lower limb trauma. First investigation to be done is :
- (1) Echocardiogram (2) ECG  
(3) X-Ray Chest (4) CT scan
22. A 30 year old lady with 28 weeks pregnancy was admitted to emergency ward in severe distress. A diagnosis of HELLP syndrome was made. What is not correct about the disease ?
- (1) Elevated Platelet count (2) Liver Dysfunction  
(3) Patient should be sent for MTP (4) Endothelial Dysfunction
23. A 50 year old diabetic male presents for routine checkup in OPD. The doctor advised him to aim for the following goals. All are true **except** :
- (1) HBA1C < 8 (2) FBS < 126 (3) PPBS < 200 (4) Weight reduction
24. A 45 year diabetic patient presents with acute abdomen. He is diagnosed as perforated duodenal ulcer and is taken up for laparotomy. Before Surgery, the doctor plans the management and assesses the surgical outcome keeping certain factors in mind. Which one is not correct ?
- (1) Major Surgery (2) H/O Cholecystectomy in the past  
(3) Emergency Surgery (4) Controlled Diabetes
25. An elderly diabetic patient has recently read about the complications of diabetes and wants to know how his kidneys can be protected. All of the listed measures help **except** :
- (1) Diuretics (2) ACEI (3) ARB (4) Control of BP
26. A 50 year obese lady presents for routine checkup and is found to have high blood sugars. She was diagnosed as a case of NIDDM. First drug to be considered for this patient is :
- (1) Glibenclamide (2) Acarbose (3) Metformin (4) Gliclazide
27. A 25 year female with 25 weeks pregnancy presents with complaint of acute shortness of breath. Her BP is 260/140 mmHg. The drug to be avoided is :
- (1) Labetalol (2) Hydralazine  
(3) Nifedipine sublingual (4) Nifedipine oral





34. A 25 year lady is a chronic case of hypertension and has 22 week pregnancy. She is advised Methylopa by the doctor. Now she wants to know the side effect profile of the drug. All are correct **except** :
- |                      |                      |
|----------------------|----------------------|
| (1) Somnolence       | (2) Dryness of mouth |
| (3) Hypersensitivity | (4) Diarrhoea        |
35. Chronic hypertension is differentiated from pre-eclampsia by all **except** :
- |                            |  |
|----------------------------|--|
| (1) Age > 30 yrs           | (2) Onset before 20 weeks of gestation |
| (3) Systolic BP < 160 mmHg | (4) LVH is more common                 |
36. A 30 weeks pregnant female aged 35 yrs, is a known hypertensive from last 6 years and presents for consultation regarding high blood pressure. All of the listed measures can be advised **except** :
- (1) Aerobic exercise
  - (2) Stop alcohol intake
  - (3) Centrally acting antihypertensives
  - (4) Combined beta + alpha blockers
37. A 28 yrs lady with 22 weeks pregnancy presented with history of resuscitated Cardiac arrest. ECG showed VT and was cardioverted to sinus rhythm. She is a old case of Hereditary Long QT syndrome. The treatment of choice is :
- |                              |                   |
|------------------------------|-------------------|
| (1) Calcium channel blockers | (2) Beta blockers |
| (3) Procainamide             | (4) Amiodarone    |
38. A 50 year diabetic male presented for checkup due to exertional chest discomfort. He was diagnosed as having CAD with stable angina. Seeing his lipid profile, the doctor commented that he had diabetic dyslipidemia. What is **not** correct ?
- |                   |                     |
|-------------------|---------------------|
| (1) Increased LDL | (2) Increased TG    |
| (3) Decreased HDL | (4) Increased LP(a) |
39. A diabetic hypertensive patient was counselled regarding complications of diabetes and was prescribed ACE inhibitors for nephro protection. The mechanism of action are all **except** :
- |                                |  |
|--------------------------------|--|
| (1) Dilate efferent arteriole  | (2) Decreased intraglomerular pressure |
| (3) Decreased microalbuminuria | (4) Dilate afferent arteriole          |

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40. All are side effects of ACE inhibitors **except** :
- (1) Hyperkalemia
  - (2) Teratogenicity
  - (3) Peripheral oedema
  - (4) Hypotension
41. A 30 year old lady underwent Mitral valve replacement 6 years back with St. Jude valve. Now she wants to plan pregnancy and wants to know about her anticoagulant regimen. All of the following options are correct **except** :
- (1) LMWH throughout pregnancy
  - (2) Heparin in first trimester and then warfarin upto 38 weeks and switch over to LMWH with planned labour induction
  - (3) Warfarin throughout pregnancy and switch over to LMWH with planned labour induction at 38 weeks
  - (4) LMWH in first trimester and then switch over to warfarin
42. A 21 year old female with 24 weeks pregnancy was admitted with respiratory distress. ECG shows AF with fast ventricular rate. In the list of differential diagnosis the least possible is :
- (1) Mitral valve disease
  - (2) Aortic valve disease
  - (3) Hyperthyroidism
  - (4) ASD
43. A 45 year male diabetic patient presented with history of fever from 10 days with cellulitis in right foot. He is short of breath and lethargic. His PR is 120/min and BP is 90/60 mmHg. Investigations show uncontrolled blood sugars with ketone bodies in blood and urine. The pathogenesis of this disease involves all **except** :
- (1) Increased Fatty acids in liver
  - (2) Cellular dehydration
  - (3) Increased gluconeogenesis
  - (4) Impaired lipolysis
44. A diabetic patient with a weight of 65 kg wants to know about dietary advice to prevent microvascular complications. He should be advised :
- (1) High glycemic index foods
  - (2) Basal calories of 22Kcal/kg ideal body weight
  - (3) 60–70% of total calories by carbohydrates
  - (4) Proteins 20–25% of total calories

45. Diabetes Mellitus is characterized by :
- (1) Thirst (2) Polyuria  
(3) Weight loss (4) All the above
46. Insulin is secreted by which islets :
- (1) Beta cells (2) Alpha cells  
(3) Gamma cells (4) None
47. Syndrome X comprises :
- (1) Obesity (2) Hypertension  
(3) Hyperinsulinemia (4) All of the above
48. Diabetes (secondary) is caused by all **except** :
- (1) Calcium channel blocker (2) Beta blocker  
(3) Thiazides (4) Phenytoin
49. Which is the gold standard for diagnosis of Diabetes ?
- (1) Fasting Glucose (2) HbA1C  
(3) Oral Glucose tolerance test (4) None
50. Which is **not** the criteria for diagnosis of gestational diabetes mellitus ?
- (1) WHO Criteria (2) "O" Sullivan Criteria  
(3) Both (1) and (2) (4) RHO Criteria
51. Hypoglycemia is defined as blood glucose :
- (1) < 60 mgm (2) < 80 mgm (3) < 100 mgm (4) None
52. Which is **not** autonomic symptom of hypoglycaemia ?
- (1) Tremor (2) Palpitations (3) Hunger (4) Nervousness
53. Neuroglycopenic symptoms are all **except** :
- (1) Weakness (2) Nightmares (3) Headache (4) Tremors

54. Ketone bodies are all **except** :
- (1) Acetone (2) Glucose  
 (3) Aceto acetate (4) Beta hydroxy butarate
55. Which is **not** clinical abnormality of Diabetic ketoacidosis ?
- (1) Increased lipolysis (2) Decreased lipolysis  
 (3) Increased proteolysis (4) Decreased glucose uptake
56. Average fluid deficit in Diabetic ketoacidosis :
- (1) 1 Litre (2) 2 Litres (3) 4 Litres (4) 6 Litres
57. Which is **not** ideal for fluid correction in Diabetic ketoacidosis ?
- (1) 0.9% saline (2) 5% dextrose  
 (3) Both (1) and (2) (4) Ringer lactate
58. Which is not feature of HONK ?
- (1) Glucose > 600 mgm (2) Serum osmolarity < 330  
 (3) Serum osmolarity > 330 msm/kg (4) Absence of Ketones
59. Solution used for correction of HONK is :
- (1) Half normal saline (2) 0.9% saline  
 (3) Ringer Lactate (4) None
60. Isolated systolic hypertension is defined as :
- (1) Systolic pressure > 160 mmHg (2) Diastolic pressure < 90 mmHg  
 (3) Both (1) and (2) (4) None
61. Which is **not** a macrovascular complication of Diabetes ?
- (1) Coronary Artery Disease (2) Cerebro Vascular Disease  
 (3) Peripheral Vascular Disease (4) Retinopathy

62. Ankle brachial systolic pressure ratio normally is :
- (1) > 1                      (2) < 1                      (3) > 2                      (4) None
63. Which is **not** a feature of neuropathic foot ?
- (1) Warm foot                      (2) Cool foot  
(3) Palpable foot pulses                      (4) Distended veins on foot
64. Which is **not** a microvascular complication of Diabetes ?
- (1) Retinopathy                      (2) Neuropathy  
(3) Nephropathy                      (4) Cerebro vascular accident
65. Dot and blot hemorrhages is a feature of :
- (1) Neuropathy                      (2) Non proliferative retinopathy  
(3) Vasculities                      (4) None
66. Glimepride is :
- (1) Short acting                      (2) Intermediate acting  
(3) Long acting                      (4) None
67. Diabetic pregnancy leads to :
- (1) Intra uterine death                      (2) Respiratory distress (fetal)  
(3) Macrosomia                      (4) All the above
68. Blood volume in pregnancy rises rapidly till :
- (1) Early 1<sup>st</sup> trimester                      (2) Mid pregnancy  
(3) Late pregnancy                      (4) None
69. Cardiac output reaches plateau in pregnancy by :
- (1) 3<sup>rd</sup> week                      (2) 6<sup>th</sup> week                      (3) 24<sup>th</sup> week                      (4) None

70. Supine hypotensive syndrome of pregnancy occurs because of compression of :
- (1) Superior Vena cava                      (2) Inferior Vena Cava  
 (3) Both (1) and (2)                      (4) None
71. Drugs that shorten APD are all **except** :
- (1) Mexiletine              (2) Phenytoin                      (3) Lidozaine              (4) Quinidine
72. Dosage for prevention of pre-eclampsia for aspirin in pregnancy :
- (1) 60–80 mg/day                      (2) 100–125 mg/day  
 (3) 150–200 mg/day                      (4) 325 mg/day
73. Warfarin causes all **except** :
- (1) Fetal embryopathy                      (2) Spontaneous abortion  
 (3) (1) and (2)                      (4) Does not cross placenta
74. Warfarin in pregnancy is switched over to heparin in third trimester in :
- (1) 26 weeks              (2) 30 weeks                      (3) 38 weeks              (4) None
75. Pre-eclampsia includes all **except** :
- (1) Systolic BP > 40 mmHg                      (2) Diastolic BP > 90 mmHg  
 (3) Proteinuria > 100 mm/24 hrs                      (4) None
76. Sildenafil is which inhibitor :
- (1) Phosphodiesterase –5                      (2) Phosphodiesterase –3  
 (3) Phosphodiesterase –1                      (4) (1) and (2)
77. Heart Failure causes all **except** :
- (1) ↓ stroke volume                      (2) ↑ Norepinephrine levels  
 (3) ↑ Stroke volume                      (4) Activation of central baro reflex

78. Which is **not** function of Brain Natriuretic peptide ?
- (1) ↓ Preload
  - (2) Inhibit sodium absorption in proximal tubule
  - (3) ↓ afterload
  - (4) ↑ afterload
79. Which is **not** a high output state causing heart failure ?
- (1) Thyrotoxicosis
  - (2) Paget's disease
  - (3) Cardiogenic shock
  - (4) Cor pulmonale
80. Dominant diastolic heart failure is caused by all **except** :
- (1) Hypertension
  - (2) Severe aortic stenosis
  - (3) Peripartum cardiomyopathy
  - (4) Restrictive cardiomyopathy
81. Labetalol maximal dose in pre-eclampsia is :
- (1) 20 ng
  - (2) 60 ng
  - (3) 100 ng
  - (4) 220 ng
82. First line of drug in hypertensive pregnant lady is :
- (1) Methyl dopa
  - (2) Labetalol
  - (3) Clonidine
  - (4) Atenolol
83. Which is contra indicated in pregnancy ?
- (1) ACEI
  - (2) Magnesium sulphate
  - (3) Methyl dopa
  - (4) Labetalol
84. Primary pulmonary hypertension is defined as elevation of mean pulmonary pressure :
- (1) > 25 mmHg
  - (2) > 30 mmHg
  - (3) > 35 mmHg
  - (4) > 40 mmHg

85. Primary pulmonary hypertension associated with pregnancy carries :
- (1) High mortality (2) Low mortality  
(3) Average mortality (4) None
86. Which is **not** a virchow's trial ?
- (1) Venostasis (2) Hemorrhage  
(3) Vessel wall inflammation (4) Hypercoagulability
87. S 1 q3 T3 is sign of :
- (1) Myocardial infarction (2) Pulmonary embolism  
(3) LBBB (4) None
88. Window period for thrombolysis in pulmonary embolism :
- (1) 1 week (2) < 6 hrs  
(3) 2 weeks (4) None
89. PAH defined as :
- (1) Mean PA pressure > 20 mmHg (2) Systolic PA pressure > 30 mmHg  
(3) (1) and (2) (4) None
90. During pregnancy which of the following lesions are well tolerated :
- (1) MR (2) AR  
(3) MS and AS (4) MR and AR
-