

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

Term-End Examination

01841

June, 2013

MCC-007 : CARDIO-VASCULAR RELATED DISORDERS

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) *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. The prevalence of diabetes in urban population in India above the age of 20 years is :
(1) 31.6% (2) 13.3% (3) 6.1% (4) 23.8%
2. Insulin has following number of amino acids :
(1) 51 (2) 31 (3) 20 (4) 56
3. The two polypeptide chains in insulin are linked to each other by :
(1) Hydroxyl bonds (2) Carbon (3) Bisulfide bonds (4) Oxygen
4. The total amount of insulin secreted by pancreas per 24 hours is :
(1) 40-48 units (2) 10-20 units (3) 15-25 units (4) 18-32 units
5. Non Insulin Dependent Diabetes mellitus type II has the following features except :
(1) Obesity (2) Insulin Resistance
(3) High risk of ketoacidosis (4) Most common type
6. As per data available in 2003, the rural prevalence of diabetes in India is :
(1) 6.3% (2) 7.2% (3) 5.3% (4) 9.4%
7. Metabolic syndrome consists of the following abnormalities except :
(1) Hyperinsulinaemia (2) Hypertension
(3) Obesity (4) Elevated HDL
8. Hyperosmolar Non - ketotic Coma has all the following features except :
(1) Blood sugar > 600 mg/dl. (2) Ketosis is rare.
(3) Insulin level is low. (4) Glucagon level is not high.
9. Following conditions can lead to secondary diabetes except :
(1) Pancreatitis (2) Acromegaly
(3) Hypothyroidism (4) Beta blockers

17. Metformin has following effects except :
- (1) Increased glucose absorption from gut
 - (2) Lactic acidosis
 - (3) Glucose output from liver is reduced
 - (4) Increased peripheral glucose utilisation
18. Ketoacidosis can be precipitated by :
- (1) Glucose intake
 - (2) Pneumonia
 - (3) Myocardial Infarction
 - (4) Trauma
19. The blood volume increase during pregnancy is (average) :
- (1) 20%
 - (2) 50%
 - (3) 40%
 - (4) 60%
20. A 28 week pregnant woman has following cardiac findings :
- Heart rate 90/min
 - Third heart sound at apex
 - Ejection systolic murmur at pulmonary area
 - Short mid diastolic murmur at apex
- The probable diagnosis is :
- (1) Mitral stenosis
 - (2) Atrial septal defect
 - (3) Normal heart
 - (4) Pulmonary stenosis
21. Cardiac output increases during pregnancy by :
- (1) 40%
 - (2) 50%
 - (3) 60%
 - (4) 70%
22. Following are true in relation to beta-blocker administration during pregnancy and lactation except :
- (1) Discontinue beta blockers (BB) 2-3 days before delivery
 - (2) Breast feed within 3-4 hours after BB
 - (3) Avoid BB in 1st trimester
 - (4) Neonates born to mothers on BB has to be monitored for 72 to 96 hours

23. Following drug is contraindicated during pregnancy :
- (1) Angiotensin Converting Enzyme Inhibitors
 - (2) Digitalis
 - (3) Beta-blocker
 - (4) Verapamil
24. During pregnancy, significant symptoms can be precipitated in patients with the following lesion :
- (1) Mitral regurgitation
 - (2) Atrial Septal Defect
 - (3) Mitral stenosis
 - (4) Aortic regurgitation
25. Warfarin can cause skin necrosis due to :
- (1) Reduced Protein C
 - (2) Excess protein C
 - (3) Excess protein S
 - (4) Extensive thrombosis
26. Following antibiotic can potentiate the effect of warfarin :
- (1) Penicillin
 - (2) Erythromycin
 - (3) Doxycycline
 - (4) Cephalosporins
27. Following drugs are phosphodiesterase type III enzyme inhibitors except :
- (1) Amrinone
 - (2) Milrinone
 - (3) Digitalis
 - (4) Vesnarinone
28. Hypertension in pregnancy is diagnosed if the blood pressure is more than (in mm of Hg) :
- (1) 140/90
 - (2) 150/90
 - (3) 130/90
 - (4) 125/85
29. Following is a potassium sparing diuretic :
- (1) Metalozone
 - (2) Ethacrynic acid
 - (3) Torsemide
 - (4) Amiloride

30. Chronic hypertension in pregnancy has following features compared to pre-eclampsia except :
- (1) Occurs in older women > 30 years of age.
 - (2) Multipara.
 - (3) Proteinuria is common.
 - (4) LVH is more common.
31. Of the following drugs, the one which does not cross placenta is :
- (1) Angiotensin converting enzyme inhibitors
 - (2) Coumarines
 - (3) Heparin (unfractionated)
 - (4) Adenosin
32. The maternal mortality in Primary Pulmonary Arterial Hypertension is :
- (1) 50-60%
 - (2) 40-45%
 - (3) 45-50%
 - (4) 35-40%
33. All the following statements are true in relation to B-type Natriuretic Peptide except :
- (1) Reduce preload
 - (2) Cause rennin release
 - (3) Reduce afterload
 - (4) Reduce sodium reabsorption in proximal convoluted tubules
34. The diagnosis of heart failure is highly likely if BNP level is :
- (1) > 50 pg/ml
 - (2) > 200 pg/ml
 - (3) > 150 pg/ml
 - (4) > 100 pg/ml
35. Pregnancy can have all the following effects on mitral stenosis patient except :
- (1) Increase in transmitral gradient
 - (2) Increase in LA size and pressure
 - (3) Worsening symptoms
 - (4) Increase in blood pressure

36. In the treatment of mitral stenosis in a pregnant woman, all the following are correct except :
- (1) Beta blockers
 - (2) Diuretics
 - (3) Digoxin in patients of AF
 - (4) BMC in 1st trimester
37. Termination of pregnancy is recommended for the following except :
- (1) Eisenmenger's syndrome
 - (2) Primary Pulmonary Hypertension
 - (3) Marfan's syndrome with dilated aorta of $> 40\text{mm}$
 - (4) Mitral stenosis
38. Deep venous thrombosis can be diagnosed by all the following except :
- (1) Venous ultrasound
 - (2) Plethysmography
 - (3) Computed tomography
 - (4) Magnetic resonance venography
39. All the following are correct for D- dimer except :
- (1) Fibrin specific degradation product
 - (2) Has high positive predictive value for pulmonary embolism
 - (3) Elevated in pulmonary embolism
 - (4) Elevated in Deep Venous thrombosis
40. The clinical symptoms of Primary pulmonary arterial hypertension are the following except :
- (1) Exertional syncope
 - (2) Angina
 - (3) Exertional dyspnoea
 - (4) Paroxysmal Nocturnal Dyspnoea

41. The least specific investigation for pulmonary embolism is :
- (1) Pulmonary Angiogram
 - (2) Spiral CT
 - (3) CT Pulmonary Angiography
 - (4) Magnetic Resonance Pulmonary Angiography
42. Following drugs are useful in treating pulmonary Arterial Hypertension except :
- (1) Epoprostenol
 - (2) 3- Phospho - diesterase inhibitors
 - (3) 5- phospho-diesterase are inhibitors
 - (4) Bosentan
43. Vigorous diuresis in chronic obstructive pulmonary disease can lead to :
- (1) Acidosis
 - (2) Alkalosis
 - (3) Left heart failure
 - (4) Hypoxaemia
44. Causes of cor pulmonale are the following except :
- (1) Chronic bronchitis
 - (2) Emphysema
 - (3) Sleep apnoea
 - (4) Bronchial Asthma
45. The median survival for Primary Pulmonary Arterial Hypertension patients with NYHA class IV symptoms is :
- (1) 1 year
 - (2) 6 months
 - (3) 2 years
 - (4) 3 months
46. The release of preformed insulin from beta cells occurs as a result of :
- (1) Influx of Ca^{++} ions into beta cells
 - (2) Influx of Na^+ ions into beta cells
 - (3) Glucokinase enzymatic activity
 - (4) Entry of glucose into beta cells

47. Maturity Onset Diabetes of the Young (MODY) mode of inheritance is :
- (1) Autosomal dominant (2) Autosomal recessive
(3) Sex linked recessive (4) Sex linked dominant
48. WHO criteria for gestational diabetes is blood glucose level at 2 hours post 75 gms of glucose :-
- (1) > 200 mg/dl (2) > 150 mg/dl
(3) > 140 mg/dl (4) > 126 mg/dl
49. Compared to non-diabetics, in a diabetic the frequency of hypertension is :
- (1) Thrice (2) Twice
(3) Equal to (4) Four times
50. In uncontrolled diabetics, glycosylation of the following molecules can occur except :
- (1) LDL (2) Haemoglobin
(3) Albumin (4) Globulin
51. Non proliferative diabetic retinopathy has all the following except :
- (1) Microaneurysms (2) Haemorrhages
(3) Cotton wool spots (4) Soft exudates
52. Ideal fibre content of the food per day is :
- (1) > 100 gms (2) 60-80 gms
(3) 30-40 gms (4) 20-30 gms
53. The dietary requirement in diabetic pregnant woman must be as follows except :
- (1) Carbohydrates 55 - 60% of calories
(2) Proteins 1.5 gm/kg body weight
(3) Fats 25 - 30% calories
(4) Calorie requirement 25 kcals/kg body wt

54. Average increase in heart rate during pregnancy is :
- (1) 10-20 bpm (2) 20-30 bpm
(3) 5-10 bpm (4) 15-25 bpm
55. The reduction in systemic vascular resistance during pregnancy is due to the following except :
- (1) Gestational hormones
(2) Decreased prostaglandins
(3) Increased heat production by foetus
(4) Low resistance placental circulation
56. The risk of warfarin embryopathy for foetuses whose mothers are on warfarin is :
- (1) 20-30% (2) 11-15%
(3) 4-10% (4) 60-67%
57. Amrinone is an inotropic agent of the category :
- (1) Glycoside (2) Adrenergic agonist
(3) 5 phospho-diesterase inhibitor (4) 3-phospho diesterase inhibitor
58. The frequency of hypertension in pregnant woman is :
- (1) 6% (2) 10%
(3) 15% (4) 20%
59. Hyperosmolar non ketotic coma (HONK) carries a mortality risk of :
- (1) 50% (2) 40%
(3) 35% (4) 25%
60. HONK occurs most likely in the following situations :
- (1) Young patients (2) After cerebro-vascular accident
(3) Diuretic treatment (4) Phenytoin treatment
61. HELLP syndrome has all the following features except :
- (1) Hemolysis (2) High platelet count
(3) Elevated liver enzymes (4) Grave prognosis

62. The following heart lesion is well tolerated during pregnancy :
- (1) Primary pulmonary arterial hypertension
 - (2) Marfan's syndrome with aortic dilatation
 - (3) Aortic regurgitation
 - (4) Mitral stenosis
63. Following statements are true for low molecular weight heparin except :
- (1) Crosses placenta
 - (2) Low incidence of thrombocytopenia
 - (3) Low incidence of osteoporosis
 - (4) Superior bioavailability
64. The dyslipidaemia of diabetics has the following features except :
- (1) Large LDL particles
 - (2) Low HDL
 - (3) Elevated triglycerides
 - (4) Small and dense LDL
65. Ankle / Brachial Index in a normal individual is :
- (1) 0.5 - 0.75
 - (2) 0.75 - 0.8
 - (3) >1.0
 - (4) <0.5
66. Microcirculation in diabetics have the following functional disturbance except :
- (1) Increased coagulability
 - (2) Increased permeability
 - (3) Increased action of nitric oxide
 - (4) Decreased microcirculatory flow
67. Cataract is more frequent in diabetics compared to non-diabetics by :
- (1) 2.0 times
 - (2) 1.6 times
 - (3) 3.0 times
 - (4) 4.0 times

68. After macroproteinuria sets in, the time gap for development of end stage renal failure in a diabetic is :

- (1) 10 yrs.
- (2) < 5 yrs.
- (3) 5-7 yrs.
- (4) 2-3 yrs.

69. Angiotensin Converting Enzyme inhibitors can reduce micro-albuminuria by causing :

- (1) Preferential efferent arteriolar dilatation
- (2) Preferential afferent arteriolar dilation
- (3) Both efferent and afferent arteriolar dilatation
- (4) Efferent arteriolar constriction

70. The anti-hypertensive of choice in a diabetic is :

- (1) Diuretics
- (2) ACEI
- (3) Beta blocker
- (4) Calcium channel blocker

71. The following agents can damage kidney except :

- (1) Contrast Agents
- (2) NSAIDs
- (3) Aminoglycosides
- (4) Penicillin

72. Peripartum cardiomyopathy has all the features except :

- (1) Can occur in last month of pregnancy
- (2) Can occur upto 5 months after delivery
- (3) Can occur upto 12 months after delivery
- (4) No demonstrable cause for heart failure

73. Peripartum cardiomyopathy is more common in the following except :

- (1) Twin pregnancy
- (2) Multiparas
- (3) Older women
- (4) Primipara

74. Peripartum cardiomyopathy patients have a complete recovery possibility of :
- (1) 50-60%
 - (2) 20-25%
 - (3) 80-90%
 - (4) 0-10%
75. Precipitating factors for venous thrombosis are the following except :
- (1) Immobilisation
 - (2) Obesity
 - (3) Oral contraceptives
 - (4) Younger age
76. Following findings indicate possibility of pulmonary embolism except :
- (1) Acute dyspnoea
 - (2) Acute LVF
 - (3) Acute shock
 - (4) Pulmonary arterial hypertension
77. Pulmonary embolism can be diagnosed from ventilation perfusion lung scan from :
- (1) Normal ventilation, normal perfusion
 - (2) Reduced ventilation, reduced perfusion
 - (3) Normal ventilation, reduced perfusion
 - (4) Reduced ventilation, normal perfusion
78. In pulmonary embolism, thrombolytic therapy is indicated in all the following situations except :
- (1) Massive pulmonary embolism (PE)
 - (2) Pulmonary embolism with RV dysfunction
 - (3) Recurrent pulmonary embolism while on heparin
 - (4) Stable PE without RV dysfunction
79. ECG features of pulmonary arterial hypertension are the following except :
- (1) Right atrial enlargement
 - (2) Right ventricular hypertrophy
 - (3) Left atrial enlargement
 - (4) ST-T changes in right precordial leads

80. Primary pulmonary arterial hypertension has the following characteristics except :
- (1) Seen in young patients
 - (2) Commonly in Females
 - (3) No cause
 - (4) Commonly in males
81. Treatment of Chronic Obstructive Pulmonary Disease are all the following except
- (1) O₂ therapy
 - (2) Bronchodilators
 - (3) Sildenafil
 - (4) Beta blockers
82. Chronic obstructive pulmonary disease patients can have following features except :
- (1) Hypoxaemia
 - (2) Acidosis
 - (3) Polycythemia
 - (4) Alkalosis
83. In patient with Pulmonary Arterial Hypertension and Differential Cyanosis, the diagnosis is :
- (1) VSD - Eisenmenger
 - (2) PDA - Eisenmenger
 - (3) Primary Pulmonary Arterial Hypertension
 - (4) ASD-Eisenmenger
84. Pulmonary Artery Wedge Pressure will be elevated in :
- (1) VSD - Eisenmenger
 - (2) Mitral stenosis
 - (3) Primary Pulmonary Arterial Hypertension
 - (4) Thrombo-embolic PAH
85. In patient with Eisenmenger syndrome with split S₂, the most probable underlying lesion is :
- (1) VSD
 - (2) PDA
 - (3) ASD
 - (4) AP window

86. In primary Pulmonary Arterial Hypertension the most important finding in Jugular Venous Pulse is :
- (1) Prominent V wave (2) Sharp y descent
(3) Prominent A wave (4) Absent A wave
87. The Pulmonary embolism can occur in all the following except :
- (1) Tricuspid valve infective endocarditis
(2) Amniotic fluid embolism
(3) Left atrial myxoma
(4) Venous thromboembolism
88. Deep venous thrombosis can be prevented by :
- (1) Compression stockings
(2) Late mobilisation
(3) Prophylactic low molecular weight heparin
(4) Early physiotherapy
89. The prophylactic dose of Enoxaparin to prevent deep venous thrombosis is :
- (1) 1 mg /kg BD (2) 1.5 mg / kg
(3) 5000 units (4) 30 mg BD
90. Dabigatran is :
- (1) Oral anticoagulant (2) Antibiotic
(3) Thrombolytic Agent (4) Antiplatelet agent.
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