

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

00995

Term-End Examination

December, 2010

MCC-006 : CARDIOVASCULAR EPIDEMIOLOGY

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 Sheet.*
- (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. 45 years male hypertensive and diabetic, with triglycerides of 800 and negative Tread mill test. What are the possible secondary causes of hypertriglyceridemia ?
 - (1) Fatty diet, hypothyroidism, uncontrolled diabetes
 - (2) Excessive raw food in diet
 - (3) Smoking
 - (4) Uncontrolled hypertension

2. 49 yr old male with HDL cholesterol - 60mg/dl, total cholesterol 180mg/dl, systolic pressure of 140, smoker, diabetic, ECG showing LVH. What is the total estimated Framingham risk prediction score ?
 - (1) 10-19 (2) 20-29 (3) 50-59 (4) 60-69

3. Which of the following would you consider as highest risk ?
 - (1) 35 yr old male, HDL cholesterol 75mg/dl, total cholesterol 153mg/dl, non smoker, non diabetic.
 - (2) 41 yr old male, HDL cholesterol 35mg/dl, total cholesterol 150mg/dl, systolic pressure 130.
 - (3) 46 yr old female, HDL cholesterol 55mg/dl, total cholesterol 165mg/dl, systolic pressure 135.
 - (4) 60 yr old male, HDL cholesterol 40mg/dl, total cholesterol 165mg/dl, systolic pressure 160.

4. According to the INTERHEART study, which of these conditions would be strongest predictors of AMI ?
 - (1) Ethnicity, diabetes
 - (2) Age, hypertension
 - (3) Smoking, ApoB/ApoA1 ratio
 - (4) Gender, psychosocial factors

5. 60 yr old male, non-diabetic, non-smoker, HDL cholesterol 40mg/dl, total cholesterol 165mg/dl, systolic pressure 160 mm Hg comes for a routine check-up. Estimate his 10-yr CHD risk :
 - (1) 20% (2) 30% (3) 40% (4) 50%

6. Which of these groups of risk factors would be classified as optimal according to Framingham study ?
 - (1) Total cholesterol < 175mg/dl, BP < 120/80, smoker, non diabetic.
 - (2) Total cholesterol < 180mg/dl, BP < 120/80, non smoker, non diabetic.
 - (3) Total cholesterol < 185mg/dl, BP < 120/80, non smoker, non diabetic.
 - (4) Total cholesterol < 190mg/dl, BP < 120/80, smoker, diabetic.

7. 30 yrs obese male, with family history of CAD, non hypertensive, non diabetic, non smoker with no significant coronary symptoms needs the following prevention protocol :
 - (1) primary (2) primordial (3) secondary (4) none

8. Three dietary components which are strongly correlated with high cardiovascular mortality in Finland ?
- (1) Butter, meat and margarine
 - (2) Palm oil, fish and pork
 - (3) Cream, egg yellow and mushroom
 - (4) Cheese, red wine and olive
9. A 60 yr old male, diabetic, hypertensive, vegetarian, no past h/o CHD, which of the following dietary plan would you suggest ?
- (1) Whole grain cereals, white rice, whole milk, sunflower oil.
 - (2) Legumes, fruit juice, coconut, brown rice
 - (3) Fruits, peanuts, oats, toned milk
 - (4) White rice, groundnut oil, cashews and white bread
10. A 60 yr old male, diabetic, hypertensive, non vegetarian no past h/o CHD, which of the following food products can be present in diet ?
- (1) Minced meat
 - (2) Lobster
 - (3) Fish
 - (4) Lamb
11. 30 years male smoker, mild hypertensive, non diabetic comes for counselling what are the advantages of smoking cessation ?
- (1) At one year after quitting, risk of heart attack reduces by 50%
 - (2) At one year after quitting, risk of heart attack reduces by 20%
 - (3) At one year after quitting, risk of heart attack reduces by 70%
 - (4) At one year after quitting, risk of heart attack reduces by 90%
12. 43 years male software engineer, obese, hyperlipidemic, which of the following is an unlikely benefit of exercise ?
- (1) Increased insulin sensitivity
 - (2) Improved contractile function
 - (3) Improved lipid profile
 - (4) Enhanced blood coagulability
13. The physical exercise prescription for a healthy 50 yr female can be as follows :
- (1) four to six days a week, THR 50-60%, 30-60 minutes including warm up and cool down, including large muscle groups.
 - (2) three days a week, THR 70-80%, 20 minutes including warm up and cool down, including large muscle groups.
 - (3) four to six days a week, THR 50-60%, 90-minutes including warm up and cool down, including large muscle groups.
 - (4) four to six days a week, THR 50-60%, 30-60 minutes including warm up and cool down, exercising small muscle groups only.
14. 56 yrs male had an anterior wall MI, what are the chances of his death within one year ?
- (1) 5%
 - (2) 10%
 - (3) 25%
 - (4) 50%

24. 60 years female with anterior wall MI, post PTCA stent to LAD, what type of rehabilitation will be advised ?
- (1) Primordial prevention (2) Primary prevention
(3) Secondary prevention (4) None of above
25. 35 years obese female, on Oral contraceptive pills for avoiding pregnancy, is having family history of CAD, what is primary prevention advice given ?
- (1) Physical exercise avoiding OCP weight reduction.
(2) Ecosprin and statin.
(3) Early coronary angio.
(4) None of the above.
26. 35 years male smoker and moderate hyperlipidemia, what is the best advice given ?
- (1) Avoid smoking (2) Statins
(3) Ecosprin (4) Ecosprin and statin
27. Food products like following which are rich in saturated fatty acids should be avoided in patients with established coronary artery disease ?
- (1) Whole milk, palm oil, red meat, butter
(2) Olive oil, almonds, peanuts
(3) Deep fried foods
(4) Fish, cotton seed oil
28. Effects of saturated fatty acids on lipid profiles are :
- (1) lower LDL and increase HDL
(2) lower LDL and HDL
(3) raises LDL and reduces HDL
(4) raises LDL no change or decreases HDL
29. Low glycemic index foods are all except :
- (1) oats (2) brown rice (3) legumes (4) white rice
30. Long term effects of life style modification were studied in following trials except :
- (1) nurses health study (2) seven countries study
(3) HALE study (4) MRFIT
31. 35 years male non hypertensive, non diabetic, non smoker with total cholesterol of 189, HDL of 45, LDL 100, no evidence of CAD, what is first line of therapy ?
- (1) Life style modification (2) Aspirin
(3) 80 mg of atorvastatin (4) 145 mg of fenofibrate

40. A 55 years female post menopausal, history of CAD. Along with antianginal drugs, drug of choice is :
- (1) HRT (2) statin (3) none of the above (4) both
41. 55 yrs male non hypertensive, diabetic and known case of CAD. Which is the unconventional risk factor you will look for ?
- (1) Fasting lipid profile (2) Fasting blood sugar
(3) proBNP (4) High Lp (a)
42. All of the following are criteria for definition of metabolic syndrome except :
- (1) elevated triglycerides on treatment
(2) reduced HDL
(3) raised BP
(4) normal blood sugar
43. Which of these is not a non Modifiable risk factor for CAD ?
- (1) Age (2) Gender
(3) Hereditary (4) Metabolic syndrome
44. The major difference in epidemiology of cad from west to Indians are all except :
- (1) higher mortality (2) older age of onset in Indians
(3) 4-times higher than Chinese (4) tVD is common in young
45. Implantation of an ICD device after MI with severe LV dysfunction and no evidence of ventricular tachycardia comes under which category of prevention ?
- (1) Primary (2) Secondary (3) Primordial (4) Tertiary
46. Absence of sedentary habits in people living in a village results in reduced prevalence of coronary artery disease. This is an example of which type of prevention ?
- (1) Primary prevention (2) Primordial prevention
(3) Secondary prevention (4) Any of the above
47. Which of the following food products has low glycemic index ?
- (1) Potatoes (2) Soft drinks
(3) Oats (4) White rice
48. Which of the following increases HDL ?
- (1) Mono unsaturated fats (2) Polyunsaturated fats
(3) Trans fats (4) Saturated fats
49. Beneficial effects of exercise include :
- (1) reduction in blood pressure (2) reduction in risk of developing diabetes
(3) reduces LDL/HDL ratio (4) all of the above

50. In choosing an anti-hypertensive agent for a particular patient, which of the following relations is wrong ?
- (1) Diabetes Enalapril
 - (2) Peripheral vascular disease Metoprolol
 - (3) Heart Failure Ramipril
 - (4) Coronary artery disease Atenolol
51. A 40 yr old gentleman came for a yearly medical check up. His Body Mass Index (BMI) is 39. He should be graded in which of the following categories ?
- (1) Overweight
 - (2) Moderately obese
 - (3) Normal
 - (4) Morbid obesity
52. Which of the following is thought to be the primary mechanism of Metabolic syndrome ?
- (1) Insulin resistance
 - (2) Overeating
 - (3) Myocardial infarction
 - (4) Chromosome abnormality
53. Which of the following statements regarding metabolic syndrome is false ?
- (1) It is also called syndrome X.
 - (2) Smoking is an important component
 - (3) It increases risk of cardiovascular disease
 - (4) Central obesity is essentially present
54. Which of the following coronary risk factors is more prevalent in south Asians compared to Caucasians ?
- (1) Total cholesterol
 - (2) Smoking
 - (3) Truncal obesity
 - (4) High Body mass index.
55. As per WHO recommendations what percent of total calories can be constituted by fats ?
- (1) <30%
 - (2) 30-50%
 - (3) <10%
 - (4) 50-70%
56. 60 years old lady is admitted with acute anterior wall Infarction. She is diabetic, non hypertensive and has moderate LV Dysfunction. She has no history of asthma and has no evidence of peripheral vascular disease. Which of the following medications must be prescribed for her ?
- (1) Beta blockers
 - (2) ACE Inhibitors
 - (3) Antiplatelets
 - (4) All the above
57. Which of the oils has high concentrations of polyunsaturated fats ?
- (1) Peanut oil
 - (2) Corn oil
 - (3) Olive oil
 - (4) None of the above

58. Increased fiber content of foods :
- (1) increases glycemic index
 - (2) decreases glycemic index
 - (3) has no relation to glycemic index
 - (4) has variable relation to glycemic index
59. A 50 yr old gentleman was admitted with Acute Myocardial infarction and underwent primary angioplasty. His LDL was found to be 130mg%. Prescription of statins for him is an example of which preventive strategy ?
- (1) Primary prevention
 - (2) Primordial prevention
 - (3) Secondary prevention
 - (4) None of the above
60. Apart from the conventional risk factors, which of the following is considered as a risk factor for Coronary artery disease ?
- (1) Homocysteine
 - (2) Albumin
 - (3) Amylase
 - (4) Plasmin
61. Fatty streaks are seen at which age group ?
- (1) >70 years
 - (2) 50-70 years
 - (3) <3 years
 - (4) 30-40 years
62. A 50 year old male smoker presents with chest pain. His resting ECG shows 2mm ST depression in leads II, III and AVF. Which is the most likely pathology in his coronary arteries ?
- (1) Fatty streak
 - (2) Plaque rupture and clot
 - (3) Soft plaque
 - (4) Hard plaque
63. All the following statements regarding tobacco and coronary artery disease (CAD) are true except :
- (1) chewing or inhaling tobacco confers less risk for CAD than smoking.
 - (2) non smokers exposed to cigarette smoke have increased risk for CAD.
 - (3) stopping smoking causes decrease in cardiovascular morbidity and mortality.
 - (4) smoking causes increase in blood pressure.
64. Increased levels of which of the following reduce risk of heart attacks
- (1) LDL
 - (2) VLDL
 - (3) Triglycerides
 - (4) HDL
65. A middle aged man is found to have serum triglycerides of 200 mg%, LDL of 100 mg% and total cholesterol of 23 mg%. Which of the following conditions can explain this lipid profile ?
- (1) Alcohol intake
 - (2) Diabetes
 - (3) Hypothyroidism
 - (4) All of the above

66. A 45 yrs old diabetic lady presents for routine evaluation. She is obese, has a BP = 170/100, and Pulse rate 92/min. Her fasting blood sugar is 128 mg%, Lipid profile is - Total cholesterol = 250 mg%, LDL = 160 mg%, HDL = 30 mg%, Triglycerides = 250 mg%. Which of the following in this lady is not required to make a diagnosis of metabolic syndrome ?
- (1) LDL = 160 mg% (2) HDL = 30 mg%
 (3) Triglycerides = 250 mg% (4) Blood pressure = 170/100 mm Hg
67. True statement regarding Lipoprotein (a) is :
- (1) it is largely influenced by diet
 (2) it is less atherogenic than LDL
 (3) higher levels are related to premature CAD
 (4) levels are higher in males
68. Which cut off age is considered to define Coronary artery Disease in the young ?
- (1) <50 years (2) <30 years (3) <40 years (4) <20 years
69. In which of the following the prevalence of CAD is highest ?
- (1) Resident Indians (2) Immigrant Indians
 (3) Native Caucasians (4) Rural North Indians
70. Which of the statements is false with regard to excess alcohol intake is false ?
- (1) It protects from CAD (2) Increases sudden death
 (3) Increases stroke (4) Increases incidence of hypertension
71. 40 yr old patient presents with severe retrosternal chest pain. ECG shows ST elevation in Leads V1 to V6. The ER staff is preparing to administer him thrombolysis. Which of the following medications should not be given to relieve his chest pain ?
- (1) Nitroglycerine (2) Morphine
 (3) NSAID (4) All of these can be given.
72. A 40 year old businessman is seen in the outpatient for a routine examination. He has no symptoms pertaining to cardiovascular disease but would like to know how much risk he is of having coronary artery disease (CAD). He has been smoking 2 cigarettes for the last 15 years, has a blood pressure of 130/100, and a Total cholesterol/HDL ratio (TC/HDL) of 5.0. His father died of a heart attack at 75 years of age. Which of the following do not account for increased risk of CAD ?
- (1) His family history (2) Smoking history
 (3) TC/HDL ratio (4) All of the above account for increased risk
73. A patient with type II Diabetes Mellitus is at increased risk of developing :
- (1) Cerebro vascular disease (2) Coronary artery disease
 (3) Peripheral vascular disease (4) All the above

74. A 40 year old executive non smoker has a blood pressure of 120/80 mm Hg. His total cholesterol is 150 mg% and HDL is 45 mg%. His fasting blood sugar is 82 mg% and HBA1C is 5.5%. What is his estimated 10 year risk for developing coronary artery disease ?
 (1) <10% (2) <20% (3) <30% (4) <5%
75. Which of the following are least desirable among fats in food items ?
 (1) Saturated fats (2) Trans fats
 (3) Monounsaturated fats (4) Poly unsaturated fats
76. True statements regarding animal proteins are all the following except :
 (1) animal proteins are complete proteins
 (2) animal proteins are less healthy than plant proteins as far as its contribution to coronary artery disease is concerned
 (3) they increase homocysteine levels in the blood
 (4) they lack many essential amino acids
77. Nicotinic acid can :
 (1) reduce serum triglyceride levels (2) increase serum HDL levels
 (3) both the above (4) none of the above
78. What is the optimal LDL cholesterol levels as per ATP III guidelines ?
 (1) <100 mg% (2) <130 mg% (3) <160 mg% (4) <70 mg%
79. Orlistat and sibutramine belong to which group of drugs ?
 (1) Statins (2) Antiobesity drugs
 (3) Nitrates (4) New generation ARB
80. Obesity related medical disorders include :
 (1) Sleep apnea (2) Osteoarthritis
 (3) Hypertension (4) All the above
81. For patients with chronic atrial fibrillation who are on oral anticoagulation what is the target INR ?
 (1) 1.0-1.5 (2) 1.5-2.0 (3) 2.0-3.0 (4) 3.0-4.0
82. Which of the following patients is at highest risk of sudden cardiac death ?
 (1) 42 yrs old with dilated cardiomyopathy and LV Ejection fraction of 30%
 (2) 65 yrs old with hypertension and a normal echocardiogram
 (3) 55 yrs old with Diabetes of 15 yrs duration
 (4) 70 yr old with no history of MI and who had bypass surgery after a treadmill test was positive and angiogram showed triple vessel disease with normal LV function

83. Risk of sudden death is increased in which of the following conditions ?
 (1) Severe LV dysfunction (2) Old Myocardial infarction
 (3) Congenital long QT syndrome (4) All the above
84. In which of the following patients should one hesitate to use ACE Inhibitors ?
 (1) A patient with myocardial infarction
 (2) A patient with diabetes and a blood pressure of 150/100 mmHg
 (3) A patient with serum creatinine of 4.5mg%
 (4) A patient with heart failure
85. Which of the following are non modifiable coronary risk factors ?
 (1) Smoking (2) Mental stress
 (3) Heredity (4) Physical inactivity
86. In a patient with acute myocardial infarction which of the following medications is not an indicated pre discharge medication ?
 (1) Aspirin (2) Warfarin
 (3) Clopidogrel (4) Beta blocker
87. Obesity is related to which clinical conditions ?
 (1) Insulin resistance (2) Metabolic syndrome
 (3) Diabetes (4) All the above
88. Addition of Iodine supplements to commercial salt is an example of which prevention strategy ?
 (1) Single risk individual strategy (2) Population strategy
 (3) High risk individual strategy (4) All of the above
89. Glycemic index of a food item is related to which of the following ?
 (1) Fiber content (2) Type of starch (3) Ripeness (4) All the above
90. In a patient with heart failure which of the following medications should not be prescribed routinely ?
 (1) Amiodarone (2) Beta blockers
 (3) ACE Inhibitors (4) All of the above are prescribed