| MCC-006 |

POST GRADUATE DIPLOMA IN CLINICAL CARDIOLOGY (PGDCC)

00894

Term-End Examination

December, 2011

MCC-006 : CARDIO VASCULAR 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 Sheets.

(ii)   All questions are compulsory.

(iii)   Each question will have four options and only one of them is correct. Answers have to 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. The CAD rates of Indian immigrants to USA is :
    (1) Less than that of Indians residing in India.
    (2) More than that of natives of USA.
    (3) Equal to that of Indians residing in India.
    (4) Equal to that of natives of USA.

2. Premature CAD is defined as :
    (1) MI or angina occurring in men less than 40 years.
    (2) MI or angina occurring in women less than 55 years.
    (3) MI or angina occurring in men less than 55 years.
    (4) MI or angina occurring in men less than 65 years.

3. CAD in Indians is characterized by all the following except :
    (1) More severe in extent
    (2) Mortality is same as that in other ethnic groups
    (3) Have larger infarcts and smaller coronary arteries
    (4) Do not have well developed collaterals.

4. All the following are true except :
    (1) Rural India has higher prevalence of smoking.
    (2) Urban India has higher prevalence of metabolic syndrome.
    (3) Prevalence of diabetes is same in both urban and rural areas.
    (4) CAD rates are more in urban Indians.

5. Disability Adjusted Life Years :
    (1) Indicates age at which disease starts
    (2) Indicates years of life lost
    (3) Indicates years lived with disability
    (4) Both (2) and (3).

6. Atherosclerosis starts in :
    (1) Young childhood
    (2) Young adulthood around 22 years
    (3) Middle age about 40 to 50 years
    (4) At 55 years in men and 65 years in women

7. Which of the following statements is not true of Atherosclerosis ?

   (1) Unstable plaques are characterized by more lipid core.

   (2) Unstable plaques are characterized by thin fibrous cap.

   (3) Unstable plaques are characterized by thick fibrous cap.

   (4) Unstable plaques may get complicated by internal hemorrhage.

8. Preventive measures for CAD :

   (1) Should start in middle age since at this age the person is economically most productive

   (2) Should start in late age since the benefit will be more

   (3) Should start in young age since the disease starts in this age.

   (4) Are less cost effective than the intervention treatments.

9. Which one of the following is a modifiable risk factor for atherosclerosis ?

   (1) Age   (2) Gender   (3) Heredity   (4) Diabetes mellitus

10. The following statement about CAD in women is false :

   (1) Women in the age group of 60 to 70 years have same incidence of CAD as men.

   (2) Oral contraceptives and stress are not important risk factors for CAD in pre menopausal women.

   (3) Women have higher mortality than men following heart attack.

   (4) Bypass surgery is safer in men compared to women.

11. Framingham Study is a :

   (1) Randomized double blind controlled trila.

   (2) Prospective cohort study

   (3) An observation case control study

   (4) A retrospective registry data.

12. Which one of the statement regarding fatty acids is false ?

   (1) Saturated fats increase LDL cholesterol

   (2) Poly unsaturated fats increase HDL cholesterol

   (3) Monounsaturated fats do not decrease HDL cholesterol.

   (4) Trans fatty acids have high atherosclerosis risk.

13. Which one of the following public health measures is inappropriate ?

    (1) Banning smoking in public places.

    (2) Educating people that non smoke tobacco is also harmful.

    (3) Displaying lethal pictures on the cigarette packets.

    (4) None of the above.

14. About Alcohol and heart disease - which statement is appropriate ?

    (1) People should be urged to initiate Alcohol consumption since it protects against CAD.

    (2) Alcohol increases risk of thrombotic stroke.

    (3) It causes atrial arrhythmias.

    (4) It decreases blood pressure by decreasing the psychological stress.

15. About physical exercise and heart disease which statement is false ?

    (1) Sedentary life style confers as much risk as hypertension or tobacco usage.

    (2) Regular exercise decreases hypertension.

    (3) In Framingham Offspring study even half an hour exercise per week is beneficial.

    (4) In US Rail road study it is not an independent risk factor in multivariate analysis.

16. One of the following is not a risk factor for CAD :

    (1) Low social and emotinoal support

    (2) Job stress

    (3) Marital stress.

    (4) Anxiety neurosis

17. The most toxic component of Type A personality is :

    (1) Competitive behavior   (2) Sense of time urgency

    (3) Hostility   (4) Impatience

18. Atherogenetic risk factors are particular to :

    (1) Coronary Artery disease   (2) Stroke

    (3) Peripheral Vascular Disease   (4) All of the above

19. The threshold for blood pressure to cause atherosclerosis is :
    (1) 140/90 mm Hg.   (2) 130/80 mm Hg.
    (3) 150/100 mm Hg.   (4) No such threshold exists.

20. The evidence for benefit is very strong for which of the following lipid interventions ?
    (1) decreasing triglycerides   (2) Decreasing LDL cholesterol
    (3) Increasing HDL cholesterol   (4) All of the above

21. All of the following are atherogenic except :
    (1) Low Insulin levels   (2) Insulin resistance
    (3) High circulating Insulin levels   (4) Impaired glucose tolerance

22. Diabetes is considered as CAD equivalent because :
    (1) Diabetics have extensive CAD compared to non diabetics
    (2) Relative risk with diabetes is more in women than in men.
    (3) They tend to have more calcification and diffuse disease.
    (4) The cardio vascular mortality in diabetics without manifest CAD is same as that of non-diabetics with manifest CAD.

23. The pathological basis for more athero thrombosis in diabetes is due to all of the following except :
    (1) Oxidative stress
    (2) Systemic inflammation.
    (3) Monoclonal proliferation of vascular smooth muscle cells
    (4) Impaired fibrinolysis

24. The recent evidence suggests that in CAD patients :
    (1) Strict glycemic control with Glycosylated Haemogloin levels less than 6 is ideal
    (2) Glycemic control does not matter
    (3) Management of diabetes with targeted Glycosylated Haemoglobin levels less than 6 gm% can be detrimental.
    (4) DPP 4 inhibitors can be given safely

25. In the management of Diabetes it has to be noted that :
    (1) Good glycemic control markedly reduces micro angiopathy more than macro angiopathy
    (2) Good glycemic control is more important to reduce macro angiopathy than micro angiopathy.
    (3) Glycemic control is not so important in type II diabetes as compared to type I.
    (4) Control of other risk factors is less important compared to glycemic control.

26. Body mass index of a woman with height of 150 cm and 45 Kg weight is :
    (1) 40   (2) 10   (3) 20   (4) 30

27. Normal BMI is :
    (1) Less than 20   (2) 20 to < 25   (3) 20 to < 30   (4) 25 to < 30

28. Visceral abdominal fat produces excess of :
    (1) Norepinephrine   (2) Tumor necrosis factor alpha
    (3) Leptine   (4) Adponectin

29. Regarding obesity :
    (1) Central obesity is less risky than peripheral obesity.
    (2) Peripheral obesity is also known as male type or pear shaped obesity.
    (3) Generalized adiposity is less risky than male type or apple type obesity.
    (4) The type of obesity can be classified only on the basis of CT scan of abdomen

30. Ideally in men :
    (1) Waist hip ratio should not be more than 0.8
    (2) Waist hip ratio should be less than 0.95
    (3) Waist circumference should be less than 120 cm
    (4) Waist circumference should be more than 95 cm

31. The most important component of Metabolic syndrome is :
    (1) It is seen exclusively in Indians
    (2) Insulin resistance
    (3) Almost all of them develop CAD by age 40 of years.
    (4) It is familial.

32. Metabolic syndrome has all the following features except :

    (1)   CRP levels are increased.

    (2)   Plasminogen activator inhibitor levels are increased.

    (3)   Rennin angiotensin system is activated.

    (4)   Small dense LDL levels are increased.

33. A 50-year -old Indian comes with a blood pressure recording of 140/90 mm Hg. On examination his waist circumference is 88 cm, Fasting blood sugar is 120 mg%, HDL cholesterol 40 mg%, Triglycerides 176 mg% and LDL Cholesterol 120 mg% According to International diabetes federation criteria :

    (1)   He is diagnosed to have Hypertension stage 1

    (2)   He is diagnosed to have diabetes mellitus

    (3)   He is diagnosed to have metabolic syndrome.

    (4)   He should be started on Rosuvastatin 20 mg per day as per Jupiter trial.

34. The most sensitive method to measure left ventricular mass is :

    (1)   12 lead Electrocardiogram   (2)   2D echocardiogram

    (3)   3D echocardiogram   (4)   Magnetic Resonance Imaging.

35. Left Ventricular Hypertrophy is :

    (1)   Is an independent risk factor for Stroke

    (2)   Is most often seen in hypertensive patients.

    (3)   Some medication can cause regression of hypertrophy.

    (4)   All of the above are correct.

36. Which of the following statements is false ?

    (1)   Increased circulating Homocysteine levels in pregnant women are associated with birth of children with neural tube defects.

    (2)   Increased circulating Homocysteine is associated with increased risk for atherothrombosis

    (3)   Decreasing its levels, decreases the risk of atherothrombosis

    (4)   Folic acid, Pyridoxine and Vitamin B12 are used to decrease its levels.

37. Lp (a) is :

    (1) A thrombotic as well as atherosclerosis risk factor

    (2) Indians have high levels.

    (3) Its levels should be estimated in all familial CAD.

    (4) Its levels are genetically determined.

38. Regarding Oxidative stress :

    (1) Oxidized LDL cholesterol is more pathogenic than LDL cholesterol.

    (2) Prolonged Oxygen therapy causes more formation of Oxidized LDL.

    (3) Antioxidant therapy with Vitamin E has been conclusively proven to be beneficial

    (4) Vitamin D exerts its benefit in cardio vascular diseases by being a potent anti oxidant.

39. Which of the following statement regarding high sensitive CRP is false ?

    (1) has been shown to be an important independent risk factor.

    (2) It is a marker of inflammation.

    (3) Statin therapy reduces its levels.

    (4) It should be reduced to levels less than 2 mg per deciliter.

40. Population Attributable Risk means :

    (1) Fraction of total population which has the risk factor

    (2) Fraction of the patient population which has the risk factor

    (3) Fraction of people with risk factor who go on to develop the disease

    (4) Proportion by which the prevalence of the disease would fall if the risk factor is removed.

41. Which of the following statements is false ?

    (1) Population attributable risk for the 9 risk factors in the INTERHEART study was 90%.

    (2) Mc Keigue found that Population attributable risk for metabolic syndrome and diabetes is 73%.

    (3) In Pai's study from Bengaluru, Odds ratio for smoking is more than diabetes and hypertensions.

    (4) Total to HDL cholesterol ratio is not important when the total cholesterol levels are in normal range.

42. Lp (a) :
    (1) levels are increased due to inappropriate diet
    (2) Diabetics have higher levels.
    (3) Increased Lp (a) further aggravates the risk due to increased LDL.
    (4) Europeans have higher levels.

43. Regarding homocysteine :
    (1) Its levels are low in Indians since higher proportion of them are vegetarians.
    (2) It is an important risk factor in Indians.
    (3) In Indians it is not independently associated with increased risk.
    (4) It should be routinely measured in all Indians with CAD

44. Increasing Vulnerability of Indians for CAD is due to :
    (1) Genetic predisposition
    (2) Urbanization
    (3) Adverse interaction between genetic predisposition and changing life style
    (4) Population migration

45. Barker Hypothesis relates :
    (1) Response to injury   (2) Low birth weight
    (3) Metabolic syndrome   (4) Athero thrombosis

46. Dyslipidemia in Indians is characterized by all except :
    (1) High triglyceride levels   (2) Low HDL levels
    (3) Small Dense HDL   (4) Small Dense LDL

47. Higher Incidence of CAD in Indians :
    (1) Is same as seen in the western countries after adjusting for risk factors
    (2) Is two fold higher than western countries after adjusting for conventional risk factors
    (3) Large population base
    (4) Is due to lower socio economic status

48. INTERHEART study was a :
    (1) Randomized controlled trial
    (2) Prospective case control study
    (3) Retrospective observational study
    (4) Prospective cohort study

49. INTERHEART study :
    (1) Was done exclusively in India and China
    (2) Was done in USA
    (3) Was a multi national study
    (4) Was done in Europe

50. INTERHEART study has shown that :
    (1) Metabolic syndrome is an important risk factor
    (2) Indians need different approach for prevention of CAD
    (3) 90% of the population attributable risk is due to 9 risk factors.
    (4) Each country had its own set of risk factors for CAD.

51. Which of the following is not a risk factor according to INTERHEART study ?
    (1) Central obesity
    (2) Alcohol consumption
    (3) Not eating fruits and vegetables
    (4) Depression and Psychological Stress

52. According to INTERHEART study which two are the strongest risk factors for CAD ?
    (1) Hypertension and Diabetes
    (2) Dyslipidemia and Current smoking
    (3) Psychological stress and sedentary life style
    (4) Central obesity and alcohol consumption.

53. Community level advocacy to decrease consumption of junk foods with high saturated fat content is a type of :
    (1) Primary prevention   (2) Secondary prevention
    (3) Primordial prevention   (4) Hyper lipidemia prevention

54. Advocacy to decrease television watching to prevent vascular disease is :
    (1) Population level strategy (2) Single risk approach
    (3) High risk approach   (4) Unscientific

55. Population based strategy :

(1) Is always more costly than baseline risk strategy

(2) Is usually cheaper than baseline risk strategy

(3) Prevents more deaths in those with high baseline risk

(4) Is mutually exclusive of baseline risk strategy.

56. Target age group for preventing smoking :

(1) Young children

(2) Adolescents

(3) Young adults

(4) Middle aged persons

57. Banning smoking in public places prevents deaths due to :

(1) First hand smoke

(2) Passive smoking

(3) Both (1) and (2)

(4) Neither

58. Manager of an organization wants to prevent CAD in their employees. The right approach is to

(1) Have baseline risk profile of all employees and focus only those at high risk

(2) Treat all employees with poly pill

(3) Implement population level prevention strategies and treat people at high risk

(4) Check coronary calcium score and carotid intima media thickness in all.

59. Advising Mediterranean Diet to victims of heart attack is a type of :

(1) Primordial prevention

(2) Primary Prevention

(3) Secondary prevention

(4) Population level prevention

60. Dr Pekka Puska is famous for his :

(1) Seven Country Study.

(2) North Karelia project

(3) Mediterranean Diet

(4) Framingham project

61. WOSCOPS Study :

(1) Was a secondary prevention study

(2) Was a primary prevention study in subjects with high cholesterol

(3) Was a primary prevention study in subjects with low cholesterol.

(4) Studied ACE Inhibitors as an intervention.

62. Statins :

(1) More useful in men than women

(2) More useful in people less than 65 years than older

(3) Not useful in preventing Stroke

(4) Decrease both mortality as well as non fatal myocardial Infarction

63. Foods with High Glycemic Index include all but :

(1) White bread   (2) Sugar

(3) Oats   (4) Refined breakfast Cereals

64. A person changed his oil intake completely to Safflower oil Consumption. After few months one can expect following changes in his lipid profile compared to baseline :

(1) Decreased LDL and decreased HDL

(2) Decreased LDL and increased HDL

(3) Decreased LDL and no change in HDL

(4) No change in LDL but increased HDL

65. Example of oil with high content of mono unsaturated fats is :

(1) Coconut Oil   (2) Olive Oil   (3) Vanaspathi   (4) Ghee

66. Trans fatty acids are :

(1) Found in Dry Fruits

(2) Are liquid at room temperature

(3) Decrease the shelf life of the oil

(4) Found in Junk Foods

67. Regarding Smoking cessation all are true except :

(1) Decreases the anginal episodes

(2) Risk of heart attack decreases to 50% by 1 year

(3) Mortality decreases to that of non smokers by 10 years

(4) The risk of lung cancer never decreases.

68. Regarding Alcohol Consumption - all are true except :

    (1) It can worsen heart failure

    (2) It can cause cardiac arrhythmias

    (3) Patients should be encouraged to initiate daily consumption of moderate quantity of alcohol to prevent CAD

    (4) All alcohol beverages are more or less same

69. Regular Exercise :

    (1) May increase the risk of high blood pressure

    (2) Has no impact on mortality following heart attack.

    (3) Patients are best advised to go to a Gym.

    (4) Can decrease the anginal episodes.

70. Latest evidence in Management of Hypertension includes that :

    (1) All anti hypertension have same beneficial effect on CAD protection.,

    (2) Some anti hypertensive are more beneficial than others in decreasing the CAD events.

    (3) Treatment has no effect on outcomes.

    (4) Non pharmacological methods are superior to drug therapy.

71. Which of the following is not a primary prevention trial ?

    (1) WOSCOPS   (2) AFCAPS/TEXCAPS

    (3) 4 S   (4) Jupiter

72. Which of the following denotes high risk group according to ATP lll ?

    (1) 10 year risk of 10%

    (2) 40 year old male with smoking and hypertension

    (3) Diabetes mellitus

    (4) All of the above

73. A patient had Total cholesterol of 200 mg%, HDL cholesterol of 40 mg%, Triglycerides of 200 mg% - his calculated LDL cholesterol according to Friedewald formula is :

    (1) 120 mg%   (2) 100 mg%   (3) 140 mg%   (4) 80 mg%

74. Ideally the goal of LDL cholesterol for a 65 year old male who had undergone coronary artery bypass surgery and has diabetes mellitus and diffuse coronary and carotid vascular disease :
    (1) Less than 130 mg%
    (2) Less than 100 mg%
    (3) Less than 70 mg%
    (4) Less than 160 mg%

75. Following drugs have best evidence from clinical trials to prevent CAD :
    (1) Statins, Fibric acid derivatives and fish oils
    (2) Statins, Nicotinic acid and Aspirin
    (3) Statins, ACE Inhibitors and Aspirin
    (4) Statins, Hormone replacement therapy and clopidogrel

76. All the following are goals for a 55 year old male with diabetes for 10 years except :
    (1) LDL Cholesterol less than 100 mg%
    (2) Blood pressure less than 135/85 mm Hg
    (3) BMI between 20 to 25
    (4) Glycosylated Hemoglobin less than 7 gm%

77. The recommended treatment of obesity includes :
    (1) Calorie restriction of 500 per day would reduce weight by half kg per week
    (2) Rimonabant (not yet available in India)
    (3) At least 20% reduction is needed for beneficial effect
    (4) Bariatric Surgery is recommended for those with BMI more than 30

78. Women have CAD :
    (1) Less severe than that of men at any age
    (2) Have less mortality following Myocardial Infarction
    (3) Have smaller infarct size due to their small body size
    (4) That is more lethal than that seen in men

79. Hormone replacement therapy in women :
    (1) Is advised to prevent CAD in post menopausal women
    (2) Estrogens only regimens are better
    (3) Progesterone only regimens are better
    (4) Was not beneficial in randomized controlled trials

80. For primary prevention the risk assessment should begin at age of :
    (1) 10 years   (2) 20 years   (3) 30 years   (4) 40 years

81. The policy changes for CAD prevention by government include :
    (1) Urban planning
    (2) Agro Industrial diversification
    (3) Banning smoking in public places
    (4) All of the above

82. About Exercise prescription to prevent CAD :
    (1) Walk for 30 to 60 minutes per day at a speed of 4 to 5 miles per hour
    (2) It should be done daily otherwise not useful
    (3) Doing for more than 60 minutes a day can be harmful
    (4) Should be gasping for breath while exercising

83. A 40 - year - old sedentary male comes to your clinic to learn about CAD prevention. His Blood pressure is 140/90 mm Hg and fasting Blood sugar is 120 mg% and LDL cholesterol is 130 mg% . He chews tobacco. The correct management includes :
    (1) Start Rosuvastatin 20 mg per day
    (2) Ask him to substitute tobacco with alcohol
    (3) Reduce salt intake, stop tobacco, and exercise daily and review after one month.
    (4) All of the above

84. Regarding the total risk assessment, which of the following statements is true ?
    (1) The risk of individual risk factors is not always additive
    (2) A smoker with blood pressure of 150/90 BP has a lower risk than one with a blood pressure of 160/100
    (3) Leading sedentary life decreases the risk of hypertension
    (4) A hypertensive person with LDL Cholesterol of 120 has higher risk than a normotensive with LDL cholesterol of 150

85. One of the following is not a limitation of Framingham risk score :
    (1) It underestimates the risk in Indians
    (2) It does not include Family history a risk factor
    (3) It does not include diabetes as a risk factor
    (4) It does not give short-term or life time risk.

86. HDL Cholesterol :

(1) Low HDL is a risk factor for CAD

(2) Decreasing HDL with Torcetrapib decreases the risk of CAD

(3) Patients have to be encouraged to consume wine to increase HDL cholesterol

(4) All the above are correct.

87. Framingham Risk Scoring system includes all except :

(1) Systolic blood pressure   (2) Age

(3) Gender   (4) Metabolic syndrome

88. Life term risk :

(1) Will indicate risk of CAD events in next 10 years

(2) Will be more than Framingham risk score

(3) Will be less than Framingham risk score

(4) Is a theoretical concept only as very few people survive for total 100 years.

89. Which of the following statements regarding risk factor assessment during admission for myocardial infraction is false ?

(1) LDL cholesterol is underestimated

(2) Stress may increase the admission blood sugars.

(3) Blood pressure measured at admission truly estimates pre existing hypertension

(4) Depression is over estimated during index admission

90. South Asians have lower threshold values of waist circumference since :

(1) Asians usually have low BMI

(2) They have higher incidence of diabetes.

(3) They have higher risk even at lower threshold.

(4) Most of them are vegetarians.