**ST MARY’S UNIVERSITY**

**TWICKENHAM, LONDON**

BSc Degree Examination students registered for

Level **FIVE**

Title: **Aetiology of Chronic Disease**

Code: **HEP5005**

Semester: **ONE**

Date: **January 7th 2019**

Time: **1:30 – 3:30PM**

TIME ALLOWED: **TWO** HOURS

This paper is in **TWO** Sections.

**SECTION A:** Answer **ALL** multiple choice questions

**SECTION B:** Answer **FIVE** questions.

Answer Section **A** questions on **THIS** paper – **circle** your answer for each of the questions

Regnum:

**SECTION A**

Multiple Choice. Answer **ALL** questions**: (30 marks)**

1. The human body has a set point in order to maintain stable weight. Which hormone is central to governing the set point and is produced by white adipose tissue?
   1. Leptin
   2. Ghrelin
   3. Peptide YY
   4. Pancreatic polypeptide
2. Hunger is signalled by:
3. Gastric contractions only
4. Ghrelin only
5. Ghrelin after a meal
6. Gastric contractions and ghrelin
7. The Body Mass Index of an **obese** individual is defined as:
8. <30 kg/m²
9. >25 kg/m²
10. >30kg/m²
11. >28.3 kg/m²
12. Plaques and atherosclerosis are best defined as;
13. Fatty deposits and clots
14. Fatty deposits and thickening and hardening of the blood vessels.
15. Clots and thickening and hardening of the blood vessels
16. Hardening of the arteries and bleeding
17. Which of the following statements apply to **Type 1** Diabetes?
18. Pancreatic beta cells are destroyed resulting in inability to produce insulin
19. Generally occurs later in the lifespan of humans
20. Individuals are usually overweight
21. Is caused by lifestyle factors
22. Which of the following best describes the terms ‘leptin resistance’ and ‘insulin resistance’?
    * + - 1. The body’s inability to produce leptin only
          2. The body’s inability to produce insulin only
          3. The body’s inability to recognise and respond to the presence of both leptin and insulin.
          4. The body’s inability to produce both leptin and insulin
23. Hypertension is normally considered as;
    1. Systolic pressure ≥140mmHg Diastolic pressure ≤70mmHg
    2. Systolic pressure ≥140mmHg Diastolic pressure ≥90mmHg
    3. Systolic pressure ≥140mmHg Diastolic pressure ≥70mmHg
    4. Systolic pressure ≥140mmHg Diastolic pressure ≤90mmHg
24. Which of the following is the **correct definition** for cardiovascular disease?
25. Blood vessels irregularity and diseases
26. A group of disorders of the heart and lungs
27. A group of disorders of heart and kidney
28. A group of disorders of the heart and blood vessels
29. Peripheral arterial disease is;
    1. A group of diseases of the blood vessels supplying the legs and arms
    2. A group of diseases of the blood vessels supplying the brain
    3. A group of diseases of the blood vessels and heart
    4. A group of diseases of the blood vessels supplying the heart only
30. Which of the following best summarises those factors which have been shown to contribute to Chronic Obstructive Pulmonary Disease (COPD)?
31. Low birth weight only
32. Dental hygiene and allergies
33. Increased BMI, smoking
34. Low birth weight, poor dental hygiene, allergies, increased BMI, smoking.
35. In the **fasting plasma glucose test** what is the level of glucose which indicates that a patient is diabetic?
    1. ≥7.0 mmol/l
    2. ≥ 11.0 mmol/l
    3. ≤7.0 mmol/l
    4. = 6mmol/
36. Which of the following statements **does not** apply to the functioning of insulin?
37. Insulin is a peptide hormone released when blood glucose rises above

5mmol/l

1. Insulin converts liver stored glycogen into glucose
2. Insulin is released in response to amino acids in the blood
3. Elevated fatty acids in the blood stream impair insulin secretion
4. Which of the following best represents the most comprehensive list of triggers for asthma attacks?
   1. House dust mites, pollution, animal fur, exercise, tobacco smoke, cold air and chest infections
   2. Exercise and tobacco smoke
   3. Cold air and chest infections, anxiety
   4. Animal fur, chest infections.
5. Which value of glomerular filtration rates (GFR) is used to confirm a diagnosis of chronic kidney disease?
6. ≤80ml/min
7. ≤60ml/min
8. ≥60ml/min
9. ≥75ml/min
10. The **two main causes** of Chronic Kidney Disease are:
11. Diabetes and hypertension
12. Smoking and alcohol
13. Dehydration and exercise
14. Physical injury
15. The first sign of diabetic chronic kidney disease is:
    1. Protein in the urine
    2. Glucose in the urine
    3. Blood in the urine
    4. Salt in the urine
16. Osteoporosis defined as:
17. A disease that causes blocked pores
18. A disease that causes brittle bones
19. A disease that causes bones to become disjointed
20. A disease that causes shorter bones
21. Osteoarthritis caused by obesity or injury is called:
22. Primary Osteoarthritis
23. Rheumatoid Osteoarthritis
24. Acute Osteoarthritis
25. Secondary Osteoarthritis
26. Deficiency of the neurotransmitter dopamine in the body is associated with:
27. Multiple Sclerosis
28. Arthritis
29. Osteoporosis
30. Parkinson’s Disease
31. Parkinsons disease results in patients:
    1. Being unable to control their movements
    2. Blindness
    3. Poor balance
    4. Poor concentration
32. The primary risk factors considered to contribute to the development of cancer include:
33. Age only
34. Age and ultraviolet light only
35. Cigarette smoke and age only
36. Cigarette smoke, age and ultraviolet light
37. What are the main causes of Metabolic Syndrome?
38. Diet and lack of exercise
39. Smoking and stress hormones
40. Genetics and environment
41. All of the above
42. Which of the following factors increase the risk of developing to Multiple Sclerosis?
43. Caucasian ethnicity
44. Viruses
45. Temperate climate
46. All of the above
47. Mulitple Sclerosis is the result of:
    1. Autoimmune destruction of the myelin sheath
    2. Loss of neurotransmitters
    3. Epileptic spasms
    4. Inflammation of the joints
48. What does the term microvascular damage mean?
49. Damage to muscle
50. Damage to ligaments
51. Damage caused by insulin in blood vessels
52. Damage to membrane of small blood vessels
53. Metastasis is:
54. The growth of cancer cells
55. The name given to benign tumours
56. The rapid growth of and invasion by cancer cells
57. The movement of small groups of cancer cells to another part of the body, via the bloodstream
58. Which of the following provide the greatest risk for someone developing chronic conditions such as diabetes?
    1. High levels of visceral white adipose tissue
    2. High levels of subcutaneous white adipose tissue
    3. High levels of visceral brown fat
    4. High levels of subcutaneous brown fat
59. Which one of the following statements is true?
60. Leptin production increases with reduction of adipose tissue
61. Insulin is responsible for control of blood lipid levels
62. The hypothalamus is the part of the brain which monitors the energy status of the human body
63. Satiety signals enhance the desire to eat
64. A diet high in saturated fat affect blood lipids in which of the following ways?
65. ↑ Total cholesterol, ↑ LDL, ↓ HDL, ↑Triglycerides
66. ↑ Total cholesterol, ↓LDL, ↓ HDL, ↑Triglycerides
67. ↑ Total cholesterol, ↑LDL, ↓ HDL, ↓Triglycerides
68. **↑** Total cholesterol, ↑LDL, ↑ HDL, ↑Triglycerides
69. The excretory function of the kidney controls:
70. Water content/ volume of the body
71. Acid –base balance in the body
72. Osmotic pressure in the body
73. All of the above

**SECTION B**

Short answer questions. Answer **FIVE** questions. Total marks available 70 (14 marks per question). Each answer should include;

* Definition/explanation of the condition - 4 marks
* Answering the question - 8 marks
* Research to support answer - 2 marks

**Write your answers to Section B in the examination booklet provided**

* + - 1. Define the terms:
         1. cardiovascular disease,
         2. peripheral arterial disease,
         3. cerebrovascular disease **(4 marks)**

Discuss the risk factors associated with cardiovascular disease. **(8 marks)**

Include reference to some research evidence. **(2marks)**

1. Give the definition of the terms ‘obesity ‘and ‘overweight’. Include reference to Body Mass Index (BMI) in your answer. **(4 marks)**

Explain the effects of obesity on health. **(8marks)**

Include reference to some research evidence**. (2marks)**

1. Define the term Chronic Kidney Disease. **(4 marks).**

Discuss its causes and health implications. **(8 marks)**

Include reference to some research evidence. **(2 marks)**

1. Outline the condition of Parkinson’s disease. **(4 marks)**

Explain the pathology of the condition. **(8 marks)**

Include reference to some research evidence. **(2marks)**

1. Give a definition of the term cancer. **(4 marks)**

Discuss the link between poverty and developing cancer. **(8 marks)**

Include reference to some research evidence. **(2marks)**

1. Give a brief explanation of the condition of diabetes 2 (non-insulin dependent diabetes. **(4 marks)**

Describe the main causes of and impact on health of diabetes 2. **(8 marks)**

Include reference to some research evidence. **(2marks)**

1. Define and explain the condition of osteoporosis. **(4 marks).**

Discuss the main risk factors that can contribute to the development of this disease. **(8marks)**

Include reference to some research evidence. **(2marks)**

**END OF EXAMINATION**