

## **GKTSM YEAR 3 PRACTICE PROBLEM SOLVING PAPER**

### **INSTRUCTIONS TO STUDENTS**

- **There are 3 questions on this paper. Each question contains 3 stems with five statements that are true or false. Any or all of the five may be true or false. You should aim to spend no more than 12 minutes on each question.**
- **The marking scheme is as follows:**
  - ◆ **Correct answer: 1 mark**
  - ◆ **Incorrect answer: 0 mark**
  - ◆ **No answer: 0 mark**
- **Note that marks will NOT be deducted for an incorrect answer. You are therefore strongly advised to attempt ALL the questions.**
- **You should READ THE INTRODUCTORY PARAGRAPH AND STEM CAREFULLY before responding to the statements.**

**In the final exam this paper will be marked by machine.**

**Head Question.** A 35 year old Scaffolder is referred with a history of blackouts having occurred on five occasions in the past 3 months. On each occasion he collapsed without warning while standing and was drowsy and confused afterwards for several hours. There was no incontinence or tongue biting. There is no family history of epilepsy but he had febrile convulsions in childhood. He consumes >20 units of alcohol a day and fractured his skull in a fall two years ago.

1. On reviewing the history the following statements are considered

|  |   |
|--|---|
| Blackouts when standing strongly supports a diagnosis of syncope     | F |
| The drowsiness and mental confusion supports a diagnosis of seizures | T |
| Absence of incontinence and tongue biting excludes seizures          | F |
| Seizures due to alcohol dependence are common on withdrawal          | T |
| Seizures following head trauma always occur within one year          | F |

2. Neurological examination is normal and you consider the following investigations

|  |   |
|--|---|
| A 24 hour ECG should be requested to exclude an arrhythmia               | F |
| His EEG will demonstrate epileptic discharges in-between seizures        | F |
| Sleep EEGs are more sensitive in detecting epileptic discharges          | T |
| MRI scan is not necessary in the presence of a normal examination        | F |
| Focal discharges from the temporal lobe are consistent with this history | T |

3. On balance you feel he has complex partial seizures. Appropriate advice includes

|   |   |
|---|---|
| Changing the nature of his scaffolding work for reasons of safety       | T |
| That it is safe to drive as long as he takes anti-epileptic medication  | F |
| Offering treatment with an anticonvulsant drug such as Carbamazepine    | T |
| Instructing him to give up alcohol entirely because of drug interaction | F |
| That he may well pass epilepsy on to his children                       | F |

**Chest Question 1.** A 55 year old history professor with non-insulin dependent diabetes complains of acute shortness of breath while walking up a hill on a cold morning. There was no wheezing. His wife notes that he has occasionally become pale and clammy after meals. There is no history of chest pain.

1. From this history you consider that:

- |   |   |
|---|---|
| A chest x-ray will be diagnostic                          | F |
| He is likely to have hypoglycaemia                        | F |
| He is likely to have myocardial ischaemia                 | T |
| The absence of wheezing excludes asthma                   | F |
| He is likely to have <i>Helicobacter pylori</i> infection | F |

On examination his pulse is normal, his blood pressure is 160/95 in both arms, the lung fields are clear and there are no cardiac murmurs. You note that he has xanthelasma.

2. Your examination suggests that the following investigations are indicated:

- |                          |   |
|--------------------------|---|
| Echocardiogram           | F |
| Resting ECG              | T |
| Glycolysated haemoglobin | T |
| Gastroscopy              | F |
| Fasting Lipids           | T |

During an exercise ECG he develops 5mm ST depression across the anterior chest leads after 3 minutes and he stops the exercise test at 4 minutes due to breathlessness. There is no chest pain and his blood pressure does not rise.

3. From this test you conclude:

- |   |   |
|---|---|
| The test was inadequate as he should continue for a minimum of 10 minutes | F |
| The blood pressure response is abnormal                                   | T |
| The ST depression may be due to oesophageal spasm                         | F |
| The absence of chest pain makes this a negative test                      | F |
| Coronary angiography is indicated   | T |

**Abdominal Question.** A 32-year old man presents with a six-month history of feeling generally unwell. He has lost 3kg weight and has had frequent episodes of abdominal discomfort and diarrhoea. You believe that he probably has irritable bowel syndrome.

1. On the basis of this history, you must also consider the following possible diagnoses:

|                  |   |
|------------------|---|
| Cholecystitis    | F |
| Diverticulitis   | T |
| Giardiasis       | T |
| Coeliac disease  | T |
| Anorexia Nervosa | F |

On examination, he appears anaemic. His abdomen is soft, not tender, and you cannot detect any organomegaly or feel any mass. Rectal examination is normal. Your initial investigations confirm that he is anaemic, with hypochromic, macrocytic red cells. The results of routine biochemical investigations are normal.

2. Which of the following investigations are likely to be diagnostic?

|                                |   |
|--------------------------------|---|
| Endoscopic jejunal biopsy      | T |
| Abdominal CT scan              | F |
| Cholecystogram                 | F |
| Glucose tolerance test         | F |
| Anti-endomyseal antibody titre | T |

3. His stool microscopy and culture are normal. His jejunal biopsy showed an absence of mucosal villi, lengthening of crypts and inflammatory infiltrate of the lamina propria. On the basis of the results of your investigations, you decide to put him on a gluten-free diet. Points to consider in relation to this patient now include the following:

|  |   |
|--|---|
| He can be told that if he responds to the diet it will need to be followed life-long | T |
| He can be told that very small amounts of wheat flour will not be harmful            | F |
| He can be allowed to eat foodstuffs containing or made from rice                     | T |
| He has an increased risk of small intestinal malignancy                              | T |
| If he does not respond clinically, he can be treated with dapsone                    | F |