

Master Copy

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION IN MD (PSYCHIATRY) – JUNE 2018

Date :- 26 June 2018

Time :- 1.00 p.m. – 4.00 p.m.

Answer **all ten (10)** questions.

Answer **each question in a separate book.**

ESSAY PAPER

1. A 50-year-old female presented with increased day time sleepiness, lethargy and low mood for 4 months. During this period she has gained 10 kg of weight despite her poor appetite. Her husband reports that she snores loudly at night and sometimes stops breathing for a short period. She is on losartan 25 mg twice a day for hypertension.

On examination she was pale, BMI was 31 kg/cm². Blood pressure was 130/85 mmHg and pulse rate was 60 beats per minute.

Initial laboratory test results are shown below:

White blood cell count	9 x 10 ⁹ /L	(4-11)
Neutrophils	65%	
Lymphocytes	33%	
Haemoglobin	10 g/L	(12-15.5)
MCV	98	(76-96)
MCHC	32	(28-33)
Platelet count	245 x 10 ⁹ /L	(150-450)
ESR	25 mm 1 st hour	(<20)
Serum sodium	132 mmol/L	(135-145)
Serum potassium	4.5 mmol/L	(3.5-5.5)

- 1.1. What is the most likely diagnosis? (10 marks)
- 1.2. Explain your answer using information given above. (20 marks)
- 1.3. List two (02) confirmatory investigations that you would request and state the expected results. (20 marks)
- 1.4. Describe the management of this patient. (20 marks)

Two months after successful medical treatment she still complains of daytime sleepiness.

- 1.5. What is the most likely cause for daytime sleepiness? (10 marks)
 - 1.6. How do you confirm this? (10 marks)
 - 1.7. Name two (02) treatment options for this condition mentioned in 1.5. (10 marks)
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2. Explain the neurophysiological basis of the following (25 marks each)
 - 2.1. Organophosphate poisoning resulting in generalized body weakness
 - 2.2. Stress induced anaesthesia
 - 2.3. Opiate use resulting in addiction
 - 2.4. Repeated stimuli resulting in habituation
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3. Describe the pharmacological basis of the following (25 marks each)
 - 3.1. Galactorrhoea with haloperidol therapy
 - 3.2. Akathisia is not seen with clozapine therapy
 - 3.3. Acamprosate reduces craving for alcohol
 - 3.4. Benzhexol causes dry mouth
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4.
 - 4.1. Explain what is meant by the following terms giving an example for each (20 marks each)
 - 4.1.1. Obsession
 - 4.1.2. Compulsion
 - 4.1.3. Illusion
 - 4.1.4. Delusional perception
 - 4.2. Discuss how to differentiate between an obsession and a delusion. (20 marks)

5. Describe the following (20 marks each)
- 5.1. Autoscopy
 - 5.2. Retrospective falsification
 - 5.3. Reflex hallucinations
 - 5.4. Transitory thinking
 - 5.5. Fugue state
6. Describe the psychological basis of the following (25 marks each)
- 6.1. A smoker concludes that the evidence linking cigarette use to health problems is scientifically worthless.
 - 6.2. A 24 year old man has developed an allergy to cats. When he is in a room with cats for more than 30 minutes he develops a wheeze. After a few such allergic reactions he starts wheezing at the sight of a cat.
 - 6.3. A wife asks her husband to get her a cup of coffee and when he is on his way to get it she says, "While you are there, can you also get me a grilled cheese sandwich please?"
 - 6.4. A student is able to memorise a 12 digit password.
- 7.
- 7.1. Explain "motivation to engage in sexual activities in humans are more complex than that of animals". (50 marks)
 - 7.2. Describe theory of multiple intelligence. (50 marks)
- 8.
- 8.1. State the neuroanatomical components of the basal ganglia. (20 marks)
 - 8.2. Draw and label a coronal section of the brain across the third ventricle and shade the basal ganglia. (50 marks)
 - 8.3. Outline the principal neuronal interconnections between components of basal ganglia. (30 marks)

- 9.
- 9.1. What is a chromosomal disorder? (10 marks)
- 9.2. Explain the mechanisms of the following genetic mutations. (10 marks each)
- 9.2.1. Deletion
- 9.2.2. Duplication
- 9.2.3. Inversion
- 9.2.4. Insertion
- 9.3. Explain the genetic basis of Down syndrome. (40 marks)
- 9.4. Write (05 marks each)
- 9.4.1. A perinatal screening test for Down syndrome.
- 9.4.2. A perinatal diagnostic test for Down syndrome.
10. In a randomized control clinical trial, patients diagnosed to have schizophrenia were randomized to receive either a monthly depot antipsychotic injection or an oral antipsychotic medication, and were followed up for six months. The primary outcome measurement was the number of relapses requiring hospital re-admission, during the period of follow-up. The trial was not blinded.
- Of the 50 patients, 26 were randomized to receive the depot injection and 24 were treated with oral antipsychotic medication. Using the intent to treat sample, 20 in the depot group, and 16 in the oral treatment group, did not require hospital admission during the entire follow-up period.
- 10.1. Briefly describe what is meant by the statement “The trial was not blinded”, and the disadvantages of this method. (20 marks)
- 10.2. List two (02) methodological changes (other than change of blinding status) that would improve the quality of this trial, giving reasons. (20 marks)
- 10.3. Calculate the number needed to treat (NNT) in this trial. (40 marks)
- 10.4. Explain what is meant by standard deviation. (20 marks)