

POSTGRADUA E INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION IN MD (PSYCHIATRY)

JULY 2013

Date:- 29th July 2013

Time : 1.00 p.m.-4.00 p.m.

Answer all 10 questions.

Answer each question in a separate book.

ESSAY PAPER

1. A 23 year old female presented with a three week history of generalized swelling of the body and marked mood swings.

On further questioning she told that she was suffering from intermittent fever and pain and stiffness of hand joints for the last four months. She also complained of excessive hair loss.

On examination there was periorbital swelling and moderate pitting dependent oedema. She had mild pallor. Hand joints were normal on examination although she complained of pain. Her blood pressure was 130/90 mmHg. Examination of the respiratory system, abdomen and nervous system did not reveal any abnormality.

Past medical history was unremarkable except for episodes of migraine. She is unmarried and has normal regular menstrual periods. Her mother has type 2 diabetes mellitus; family history is otherwise unremarkable.

Initial investigations were as follows :

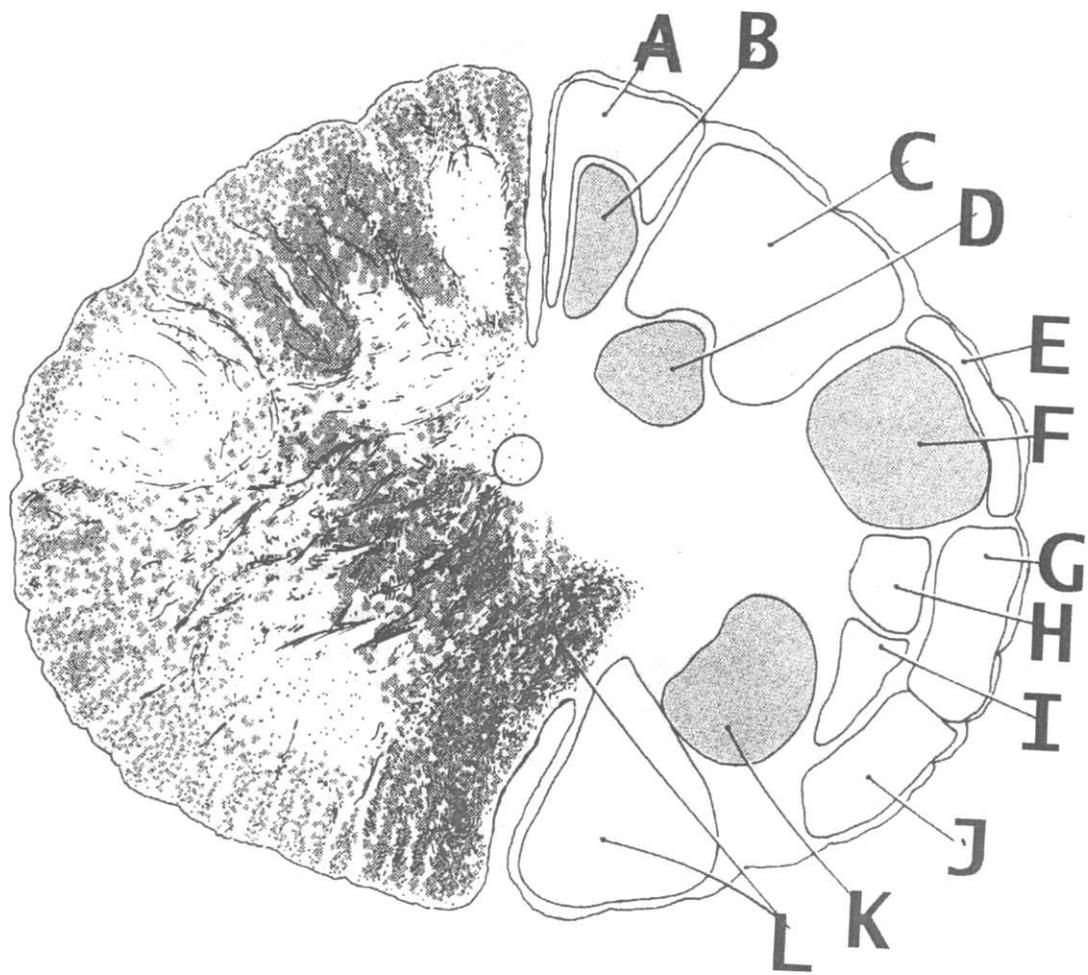
Urine Full Report

Albumin	++
Red Cells	20-30/hpf
Pus Cells	10-15/hpf

ESR	100mm in first hour	
WBC	3 x 10 ⁹ /L	(4-11 x 10 ⁹ /L)
Hemoglobin	10g/dL	(12-15g/dL)
Platelets	120 x 10 ⁹ /L	(150-400 x 10 ⁹ /dL)
Serum creatinine	1.7mg/dL	(0.6-1.5mg/dL)
Serum sodium	140mmol/L	(135-145mmol/L)
Serum potassium	4.1mmol/L	(3.5-5 mmol/L)

- 1.1. What is the most likely diagnosis ? (15 marks)
 - 1.2. Explain why you arrived at the diagnosis given in 1.1. (35 marks)
 - 1.3. Name three (03) further investigations to support your diagnosis and explain why you do them. (30 marks)
 - 1.4. Name two (02) drugs of different classes that are routinely used in this condition and mention two (02) adverse effects of each drug. (20 marks)
2. Write short notes on the following :
- 2.1. Syndrome of inappropriate antidiuretic hormone secretion (SIADH) (50 marks)
 - 2.2. Migraine (50 marks)
3. Describe the mechanism of action of the following drugs :
- 3.1. Naltrexone in alcohol dependence syndrome (30 marks)
 - 3.2. Donepezil in dementia (30 marks)
 - 3.3. Lithium carbonate in bipolar affective disorder (40 marks)
4. Compare and contrast the following psychopathological phenomena :
- 4.1. confabulation and pseudologia fantastica (25 marks)
 - 4.2. functional hallucinations and illusions (25 marks)
 - 4.3. echolalia and perseveration (25 marks)
 - 4.4. stupor and excitement (25 marks)

5. Explain the psychological basis of the following :
- 5.1. In a railway station when one person moved to help a woman threatened by a stranger, many others joined to help her. (25 marks)
 - 5.2. At an interview, the person who was smartly dressed was chosen despite having similar qualification to the others. (25 marks)
 - 5.3. In a religious ceremony a celebrant suspended by steel hooks inserted in his back was not seen to be experiencing pain. (25 marks)
 - 5.4. Graphic health messages in cigarette packets help reduce smoking in an established smoker. (25 marks)
6. Write short notes with appropriate examples for each.
- 6.1. Partial agonist action at receptors (30 marks)
 - 6.2. Action via second messengers and ion channels (30 marks)
 - 6.3. Allosteric modulation of the benzodiazepine receptor (40 marks)
7. State the genetic basis of the following conditions and give five (05) clinical features for each.
- 7.1. Turners syndrome (25 marks)
 - 7.2. Downs syndrome (25 marks)
 - 7.3. Fragile X syndrome (25 marks)
 - 7.4. Tuberous sclerosis (25 marks)



- 8.1. Describe the above diagram in detail. (20 marks)
- 8.2. Name structures from A to L. (60 marks)
- 8.3. Describe the clinical features when a damage occurs to the structure L. (20 marks)

9. A drug company has developed a new vaccine to prevent dengue. It has passed through the initial phase I and phase II trials. The safety of the vaccine has been now established. They want to administer it to 1000 volunteers (500 males and 500 females) between the ages of 21 - 50 years to test whether it is effective in the prevention of dengue fever. You are asked to be the principle investigator.

9.1. Outline briefly the experimental design most appropriate to test the effectiveness of the vaccine. (50 marks)

9.2. At the end of the study, you find that the null hypothesis is not rejected. What are the errors that may have resulted in this outcome? Explain briefly. (20 marks)

9.3. Explain briefly the ethical issues you will have to face in the conduct of this study. (30 marks)

10. Describe the theoretical basis behind the following investigations.

10.1. electro encephalography (EEG) (30 marks)

10.2. brainstem auditory evoked potential (BSAEP) (30 marks)

10.3. magnetic resonance imaging (MRI) (40 marks)