Divisional Written Examinations 2015

Extended-Matching Questions

The Written Examination will include extended-matching questions (EMQs). Their format differs from single best answer multiple-choice questions (MCQs).

EMQs, developed in 1993\(^1\), are a form of MCQ that are used extensively in written assessments. While their reliability and validity is similar to that of traditional MCQs, EMQs are superior to traditional MCQs in assessing candidates’ problem-solving and clinical reasoning abilities.

**Organisation**

EMQs are organised into four parts:

- **a Theme** – There is a theme for each EMQ. This can include a symptom, investigation, diagnosis or treatment, e.g. back pain, dyspnoea, diabetes, corticosteroids.

- **a list of possible answers, called Options** - This is a list of eight possible answers, marked A–H. The answer for the question will come from this list and should be written on the answer sheet.

- **the question, also called the Lead-in statement** - This outlines the clinical scenario and patient history, and asks the question to be matched with the option.

- **a clinical problem, or vignette, also called the Stem** – This will usually consist of a clinical problem. There may be more than one clinical vignette for each theme.

**Examples of extended-matching questions:**

The following examples of EMQs consist of:

- an option list
- a lead-in statement
- two stems or clinical scenarios.

For each stem, the candidate should choose the most appropriate option from A–H on the answer sheet. An option can be correct for more than one question.

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Example 1:
Theme: Back pain

Option list:
A. Ankylosing spondylitis.
B. Aortic dissection.
C. Prolapsed intervertebral disc.
D. Lumbar spondylosis.
E. Vertebral fracture.
F. Intervertebral disc infection.
G. Pars interarticularis defect.
H. Metastatic malignancy.

Lead-in statement:
For each patient with back pain, select the most likely diagnosis.

Stems:

Question 1
A 23-year-old man has a 6-month history of lower back pain. His pain is predominantly at the thoracolumbar junction and in the right buttock. The pain is worse in the morning and he has difficulty in getting out of bed. There is some improvement during the day. Examination shows restriction of lumbar spinal movements, particularly lateral flexion.

(Answer: A)

Question 2
A 32-year-old lady presents with acute onset of low back pain. The pain is constant and is not significantly affected by posture. All spinal movements are painful and difficult. Three weeks earlier, she had a urinary tract infection, which had been treated with amoxicillin.

(Answer: F)
Example 2:
Theme: Fatigue

Option list:
A. Acute leukaemia.
B. Anaemia of chronic disease.
C. Congestive heart failure.
D. Depression.
E. Epstein-Barr virus infection.
F. Folate deficiency.
G. Glucose 6-phosphate dehydrogenase deficiency.
H. Hereditary spherocytosis.

Lead-in statement:
For each patient with fatigue, select the most likely diagnosis.

Stems:
Question 1
A 19-year-old woman has had fatigue, fever, and a sore throat for the past week. She has a temperature of 38.3°C, cervical lymphadenopathy, and splenomegaly. Initial laboratory studies show a leukocyte count of $5 \times 10^9$/L [4-11], lymphocytes $4 \times 10^9$/L [1-4], with many lymphocytes exhibiting atypical features, serum aspartate aminotransferase (AST) 250 u/L [5–40], alanine aminotransferase (ALT) 200 u/L [2–36], bilirubin and alkaline phosphatase are normal.

(Answer: E)

Question 2
A 15-year-old girl has a 2-week history of fatigue and back pain. She has widespread bruising, pallor, and tenderness over the vertebrae and both femurs. Complete blood count shows haemoglobin of 70 g/L [120-160], leukocyte count of $2 \times 10^9$/L [4-11], and platelet count of $15 \times 10^9$/L [150-400].

(Answer: A)

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Example 3:
Theme: Congenital heart defects

Option list:
A. Aortic stenosis.
B. Atrial septal defect.
C. Atrioventricular septal defect.
D. Coarctation of the aorta.
E. Patent ductus arteriosus.
F. Pulmonary stenosis.
G. Tetralogy of Fallot.
H. Transposition of the great arteries.

Lead-in statement:
For each infant with a congenital heart lesion, select the most likely diagnosis.

Stems:
Question 1
A 2-week-old baby was born at 26 weeks gestation. It has not been possible to take the baby off the ventilator. It has a loud, continuous heart murmur best heard under the left clavicle.

(Answer: E)

Question 2
A 6-day-old baby is brought by ambulance to hospital. He is breathless, pale and responding only to painful stimuli. He has weak radial pulses and absent femoral pulses. No murmur is heard. He has hepatomegaly.

(Answer: D)
Format of the 2015 Written Examination

In 2015, there will be 4 EMQs in the Medical Sciences Paper and 8 EMQs in the Clinical Applications Paper.

The content of the papers will be:

Medical Sciences:

- 66 MCQs
- 4 EMQs

Clinical Applications:

- 92 MCQs
- 8 EMQs

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