General Pathology

The following are examples of items that you would find in a short-answer question (SAQ) exam. Model answers are included for your information.

[Date]

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Instructions – Please Read Carefully

1. The time allowed for this examination is THREE hours.

2. Please use a ballpoint or fountain pen only. Do not use a felt-tip pen. It produces a script that spreads or is too thick, and is therefore difficult or impossible to read.

3. Please write or print as legibly as possible. The examiners cannot assign marks for answers they cannot read.

4. Be as brief and direct as possible, making use of the space provided after each question.

5. Examination booklets must be returned intact to the invigilator. You may not copy and/or remove the questions in any way.

6. If a specific number of answers is requested (e.g. list FOUR), do not list more than requested as they will not be marked (i.e. if four are requested, only the first four will be marked).

7. Certain questions might contain more than one page. Please make sure that you have completed all pages of each booklet.

8. Please affix your candidate number sticker in the space provided on the COVER PAGE of each examination booklet.

NOTE:
After test administration, statistical analyses are conducted and a small number of questions may be deleted if they do not meet standards for psychometric validity. Question weighting may vary because of the importance of the question or the number of answers required. Deleted questions are not included when calculating candidates' final scores. Unanswered questions are scored as incorrect; therefore, you should answer every question.

There is a standard process for evaluating changes in medicine that occur too late in the test administration schedule to replace or modify any affected examination questions. We advise candidates to answer all questions according to their understanding of current clinical principles and practice. If it is determined that any question has been compromised by new information (newly published findings), that question will be reviewed to ensure that test-taker results are not adversely affected.
1. List **THREE** coagulation-related components present in cryoprecipitate.

   - Factor VIII
   - Fibrinogen
   - von Willebrand factor
   - Factor XIII

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Model Answer

(3 marks)
- Factor VIII
- Fibrinogen
- von Willebrand factor
- Factor XIII

Marks

3
2. A family physician asks you for advice on interpreting the following hepatitis blood test result in a patient:

- HBsAg: Positive
- anti-HBc: Positive
- IgM anti-HBc: Positive
- anti-HBs: Negative

How should this result be interpreted?

Model Answer

(1 mark)
Actively, acutely infected
3. a) Name **THREE** markers that are indicative of a systemic inflammatory response.

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

b) What biochemical marker is useful in differentiating sepsis from a generalized systemic inflammatory response?

________________________________________________________________________

**Model Answer**

a) (3 marks)
C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), ferritin, alpha-1 antitrypsin (AAT), Ig levels, ceruloplasmin, interleukins, tumour necrosis factor, alpha (TNF-alpha)

b) (1 mark)
Procalcitonin
4.

a) What test is MOST commonly used for the diagnosis of *Clostridium difficile*-associated diarrhea? What is the preferred specimen?

b) Give **TWO** examples of specimens that are NOT appropriate for *C. difficile* testing and would be rejected by the laboratory.

c) Why is a stool culture of *C. difficile* NOT routinely performed?

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**Model Answer**

a) 2 marks
   Enzyme immunoassay for toxins A and B; watery stool
b) 1 mark
   Formed stool, rectal swab
c) 1 mark
   Lacks specificity for infection
5.  

a) Describe the basic principles behind the determination of the activated partial thromboplastin time aPTT or the prothrombin time international normalized ratio PT-INR using a modern automated coagulation instrument.

- Ca\(^{2+}\) is added to overcome the citrate anticoagulant in the tube.
- The clotting process is initiated by an external stimulus.
- The time for the formation of the clot is recorded.
- The clot is generally detected by the ceasing of movement of some entity in the specimen chamber.

b) List **THREE** causes of a prolonged aPTT.

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**Model Answer**

a) - Ca\(^{2+}\) is added to overcome the citrate anticoagulant in the tube.
- The clotting process is initiated by an external stimulus.
- The time for the formation of the clot is recorded.
- The clot is generally detected by the ceasing of movement of some entity in the specimen chamber.

b) heparin contamination, factor deficiency, factor inhibitor (antibody to one or more coagulation factors)

**End**

Before you leave the room, please return your examination booklet(s) to the invigilator.