

**POSTGRADUATE INSTITUTE OF MEDICINE**  
**UNIVERSITY OF COLOMBO**

**SELECTION EXAMINATION FOR ENROLMENT TO THE IN-SERVICE**  
**TRAINING PROGRAMME IN POSTGRADUATE DIPLOMA IN**  
**TRANSFUSION MEDICINE – OCTOBER 2021**

**Date:-** 11<sup>th</sup> October 2021

**Time:-** 1.00 p.m. – 4.00 p.m.

**Answer six (06) questions only.**

Answer each question in a separate book.

1.
  - 1.1. List the main components in pre transfusion compatibility testing. (20 marks)
  - 1.2. Briefly explain the Indirect Antiglobulin Test ( IAT) and its uses in transfusion medicine. (40 marks)
  - 1.3. What is the significance of a strongly positive Direct Antiglobulin Test and how would you evaluate it? (40 marks)
2.
  - 2.1. How is cryoprecipitate prepared and what does it contain.? (10 marks)
  - 2.2. List the indications of cryoprecipitate. (20 marks)
  - 2.3. Newly appointed intern house officer wants to send a request for cryoprecipitate.  
What are the important factors to be considered when issuing cryoprecipitate? (20 marks)
  - 2.4. While you are on duty as the blood bank medical officer, the nursing officer informs that a red cell unit has returned from a ward.  
Discuss the acceptance criteria of returned blood units. (50 marks)
3.
  - 3.1. Describe the uses of apheresis in Transfusion Medicine. (50 marks)
  - 3.2. Describe the specific criteria you would consider when selecting a donor for platelet apheresis. (20 marks)
  - 3.3. Name four (04) complications of apheresis platelet donation and briefly discuss the commonest, specific complication of apheresis. (30 marks)
4.
  - 4.1. Define platelet refractoriness. (10 marks)
  - 4.2. List the causes for platelet refractoriness. (20 marks)
  - 4.3. How would you investigate platelet refractoriness? (30 marks)
  - 4.4. How do you treat a bleeding patient with platelet refractoriness? (40 marks)

Contd...../2-

- 5.
- 5.1. How can blood and blood components be contaminated by bacteria? (40 marks)
- 5.2. List the common bacterial species that can contaminate
- 5.2.1. red cell concentrate
- 5.2.2. platelet concentrate (20 marks)
- 5.3. Discuss how bacterial contamination of blood and blood components can be prevented. (40 marks)
- 6.
- 6.1. Enumerate the acute transfusion reactions. (15 marks)
- 6.2. As a medical officer blood bank, you receive a telephone call from the surgical ward informing that a 78-year-old male patient has developed fever ( $39^{\circ}\text{C}$ ), hypotension, back pain, and difficulty in breathing within 15 minutes of starting the blood transfusion.
- What is your immediate advice to the house officer? (15 marks)
- 6.3. During the investigation, it was revealed that ABO incompatible transfusion was occurred due to blood bank technical error. Explain the next step of management of this patient once acute haemolytic transfusion reaction (AHTR) is confirmed. (20 marks)
- 6.4. Enumerate the measures that can be taken to prevent AHTR. (40 marks)
- 6.5. Outline the main activities that should be monitored by a hospital based Haemovigilance programme. (10 marks)
7. A 40-year-old mother with a period of amenorrhoea of 10 weeks presents with heavy vaginal bleeding and faintishness following an attempt to terminate the pregnancy.
- She is febrile ( $39.5^{\circ}\text{C}$ ) and has generalized petechiae with warm extremities. Blood pressure is 80/60 mmHg, heart rate 120/minute, respiratory rate 26/minute and oozing from puncture sites.
- 7.1. What is the most likely diagnosis? (10 marks)
- 7.2. What are the investigations you would request to come to the relevant diagnosis and state the findings you expect? (30 marks)
- 7.3. Discuss the transfusion management of this patient. (60 marks)

8. A 36-year-old woman presents to the antenatal clinic for the first time at a period of amenorrhoea (POA) of 16 weeks.
- 8.1. What is the relevant history you need to proceed with regards to transfusion practices? (10 marks)
- 8.2. What are the immunohaematological investigations done at the booking visit? Give reasons. (20 marks)
- 8.3. Mother was found to be A RhD negative. At 25 weeks of POA she was brought to the hospital with an antepartum haemorrhage and was collapsed. Her weight is 60 kg.

The blood stock in the blood bank is as follows:

	Red cell concentrate (RCC)	Platelet concentrate
O RhD Positive	Adequate amount available	4 units
A RhD Positive	12 units	2 units
B RhD Positive	Adequate amount available	2 units
AB RhD Positive	6 units	1 unit
O RhD Negative	3 units	Nil
A RhD Negative	1 unit	Nil
B RhD Negative	2 units	Nil
AB RhD Negative	1 unit	Nil
FFP and Cryoprecipitate is available in adequate amounts		

- 8.3.1. The request is received for 4 units of RCC. As medical officer of the Blood Bank how would you provide blood? (20 marks)
- 8.3.2. One hour later, an urgent request is received for 4 units of platelets. Explain how you would attend to this request. (20 marks)
- 8.4. Once delivered, enumerate the investigations that you would carry out in the baby. (10 marks)
- 8.5. Baby is jaundiced and needs an exchange transfusion. How would you provide blood? (20 marks)