

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

**SELECTION EXAMINATION FOR ENROLMENT TO THE IN-SERVICE**  
**TRAINING PROGRAMME IN POSTGRADUATE DIPLOMA IN**  
**TRANSFUSION MEDICINE – OCTOBER 2017**

**Date :-** 17<sup>th</sup> October 2017

**Time :-** 1.00 p.m. – 4.00 p.m.

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

Answer each question in a separate book.

1.
  - 1.1. Discuss the characteristics and clinical significance of antibodies of the following blood group systems.
    - 1.1.1. ABO (40 marks)
    - 1.1.2. RhD (30 marks)
  - 1.2. List the main steps in pre-transfusion compatibility testing. (30 marks)
  
2.
  - 2.1. Mention the optimal storage conditions of following blood components. (15 marks)
    - 2.1.1. Red cells
    - 2.1.2. Fresh frozen plasma
    - 2.1.3. Cryo precipitate
    - 2.1.4. Platelet concentrates
    - 2.1.5. Buffy Coat
  - 2.2. List reasons for discarding blood and blood components. (30 marks)
  - 2.3. As the medical officer-in-charge of a blood bank, what measures would you take to minimize blood discards? (30 marks)
  - 2.4. What is the Maximum Surgical Blood Ordering Schedule (MSBOS)? (25 marks)

Contd..../2-

- 3.
- 3.1. Enumerate the immunohaematological investigations carried out in pregnancy. (20 marks)
- 3.2. How would you manage a pregnancy based on the results of the above investigations? (80 marks)
4. A 50 year old, A Rh D positive female is waiting for total abdominal hysterectomy for dysfunctional uterine bleeding. Her Hb is 6.7g/dl.

What measures would you take to reduce the allogenic blood transfusion for this patient? (100 marks)

5. Following are the blood grouping results of the transfusion reaction investigation done at the blood bank.

	Anti A	Anti AB	Anti B	Anti D	A <sub>1</sub> cells	B cells	O cells
Pre transfusion sample	4+	4+	0	0	0	3+	0
Post transfusion sample	2+mf	4+	3+mf	3+mf	3+	0	0
Blood pack	4+	4+	0	0			

- 5.1. Interpret the results. (15 marks)
- 5.2. What are the signs and symptoms you would expect in this patient during transfusion? (20 marks)
- 5.3. List other investigations to be carried out in this patient. (30 marks)
- 5.4. Mention two (02) probable causes for this error. (10 marks)
- 5.5. What would be your advice on how to prevent a recurrence of this incident? (25 marks)

- 6.
- 6.1. Briefly discuss the clinical significance of the HLA system.(40 marks)
  - 6.2. Briefly discuss the precautionary measures you would take to reduce HLA alloimmunization in clinical practice. (60 marks)
- 7.
- 7.1. You are requested to teach a group of newly appointed intern house officers about how a routinely cross matched red cell unit is transfused in the ward setting. Briefly outline the areas you would cover in this teaching session. (60 marks)
  - 7.2. Describe the immediate management of a suspected reaction during transfusion. (40 marks)
8. A 72 year old female patient is admitted with symptomatic anaemia requires blood transfusion. Pre transfusion investigations revealed a positive DAT.
- 8.1. What further information would you like to obtain from ward regarding this patient to provide blood for transfusion? (25 marks)
  - 8.2. List possible causes for positive DAT in this patient. (15 marks)
- Towards the end of the transfusion, patient developed shortness of breath.
- 8.3. What are the differential diagnoses and what is the most possible cause in the above scenario? (20 marks)
  - 8.4. What measures would you take to minimize such occurrences during transfusion? (40 marks)