

MASTER COPY

9/1/2015

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

**MD (TRANSFUSION MEDICINE) EXAMINATION – MARCH 2015**

**Date :** 9<sup>th</sup> March 2015

**Time:** 1.00 p.m. – 4.00 p.m.

**Paper I**

**Answer any five (05) questions.**

**Answer each question in a separate book.**

1.
  - 1.1 What are the characteristics of Hepatitis B virus in relation to its antigenicity? (20 marks)
  - 1.2 Briefly outline the methods of HBV transmission. (30 marks)
  - 1.3 Discuss donor blood testing for Hepatitis B infection. (50 marks)
  
2. A 70 year old female had a re-do hip replacement and required 2 units of red cells during the surgery. A week later she presented with widespread purpura, malena and a platelet count of  $7 \times 10^9/L$ . She was not on any medication which may have resulted in thrombocytopenia and her clotting screen is normal
  - 2.1 What is the likely diagnosis? (20marks)
  - 2.2 Outline the possible mechanisms responsible for this condition. (40 marks)
  - 2.3 Briefly describe the laboratory investigations required to confirm the diagnosis? (40 marks)
  
3.
  - 3.1 What is the definition of a febrile non-haemolytic transfusion reaction (FNHTR)? (20 marks)
  - 3.2 What mechanisms cause these reactions? (30 marks)
  - 3.3 What are the signs and symptoms of a FNHTR and how can these be differentiated from other possible causes? (30 marks)
  - 3.4 How can these reactions be prevented? (20 marks)

Contd..../2-

4. A 22 year old male with hemoglobin of 5g/dl receives a red cell exchange transfusion for acute chest syndrome. His post transfusion hemoglobin is 11g/dl. Two weeks later he is admitted with fever and a haemoglobin of 3.9g/dl. On examination his chest is clear and there is no obvious source of infection. Investigation reveals a positive DAT and a new anti-Le<sup>a</sup> detectable by enzyme only. Elution is performed but no antibody identified.

4.1 What is the likely diagnosis? (20 marks)

4.2 What are the typical clinical and laboratory features associated with this condition? (40 marks)

4.3 Outline the possible mechanisms which may be responsible for this condition? (40 marks)

5. Write short notes on

5.1 Acute Coagulopathy of trauma shock (35 marks)

5.2 Cytomegalovirus (CMV) in blood transfusion (30 marks)

5.3 Pathophysiology of Thrombotic Thrombocytopenic Purpura (TTP) (35 marks)

6. Discuss the pathophysiology of haemolysis in the following conditions.

6.1 ABO incompatibility (35 marks)

6.2 Delayed haemolytic transfusion reactions (30 marks)

6.3 Paroxysmal Cold Haemaglobinuria (PCH) (35 marks)

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**MD (TRANSFUSION MEDICINE) EXAMINATION – MARCH 2015**

Date : 10<sup>th</sup> March 2015

Time: 9.00 a.m. – 12.00 noon

**Paper II**

**Answer any five (05) questions.**

**Answer each question in a separate book.**

1.
  - 1.1 What do you understand by Patient Blood Management? (30 marks)
  - 1.2 You are asked to write a job description for a blood conservation coordinator to work with all surgical directorates.  
Describe the main roles you would include for this post. (50 marks)
  - 1.3 Who would manage the blood conservation coordinator? (20 marks)
2.
  - 2.1 What risks are more commonly or specifically associated with neonatal transfusions. Discuss the reasons underlying these risks. (60 marks)
  - 2.2 How are these risks reduced? (40 marks)
3.
  - 3.1 Whose health and safety should be considered when defining acceptance criteria for blood donors? (30 marks)
  - 3.2 Give examples for each of these groups and how these health and safety issues can be minimized. (70 marks)

Contd...../2-

4. A hospital transfusion laboratory receives a telephone call from the blood service to say that two exchange transfusion units need to be recalled. These units were issued 10 minutes ago for a neonate with severe haemolytic disease. No reason for the recall was given. You are contacted by the laboratory to decide how to proceed?
- 4.1 What immediate action you would take? (30 marks)
- 4.2 How would you investigate this incident? (30 marks)
- 4.3 Briefly outline the requirements of a blood transfusion recall system which should prevent similar incidents from occurring. (40 marks)
5. Write short notes on
- 5.1 Factors influencing the choice of blood components for IgA deficient patients. (30 marks)
- 5.2 Non immunological causes of platelet refractoriness. (40 marks)
- 5.3 HLA in bone marrow transplant. (30 marks)
- 6.
- 6.1 What is a maximum surgical blood ordering schedule (MSBOS)? (20 marks)
- 6.2 What are the advantages of having a MSBOS? (20 marks)
- 6.3 As the transfusion Physician in charge of a Teaching Hospital Blood Bank, what steps you would take to implement a MSBOS. (40 marks)
- 6.4 What alternative systems may be used to provide blood for routine surgery which would reduce the number of units which need to be allocated? (20 marks)