

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

SELECTION EXAMINATION FOR ENROLMENT TO THE IN-SERVICE
TRAINING PROGRAMME IN POSTGRADUATE DIPLOMA IN
TRANSFUSION MEDICINE

Date:- 15th October 2024

Time:- 1.00 p.m. – 4.00 p.m.

Answer all six (06) questions.

Answer each question in a separate book.

1. A new mobile blood donation organizer comes to the peripheral blood bank where you work and inquires whether he can organize a mobile blood donation campaign.
 - 1.1. Outline the advice you would provide in order to select a suitable date and a venue for the blood donation campaign. (30 marks)
 - 1.2. List six (06) essential requirements that must be fulfilled to become an eligible blood donor. (30 marks)
 - 1.3. Enumerate the arrangements for this campaign that you should fulfill as the medical officer of the blood bank. (40 marks)
2.
 - 2.1. Enumerate the characteristics of ABO blood group system. (40 marks)
 - 2.2. Briefly describe the clinical importance of ABO blood group system. (30 marks)
 - 2.3. Outline the selection of blood and the method of cross match for following patients: (30 marks)
 - 2.3.1. A₂ Rh D positive.
 - 2.3.2. B Rh D positive with cold auto-antibody.
 - 2.3.3. O Rh D negative without anti-D antibody.
 - 2.3.4. Bombay O Rh D positive.

3. Sri Lanka faced a pandemic few years ago. The blood stock was severely affected during that period.
 - 3.1. List the challenges faced when maintaining the blood stock during that period. (40 marks)
 - 3.2. Briefly state the strategies to maintain adequate levels of blood and blood products during a pandemic situation. (40 marks)
 - 3.3. List the alternative groups of platelets, in order of preference, that can be transfused for the following blood groups, when group specific platelet concentrate (PC) is not available. (20 marks)
 - 3.3.1. Group A
 - 3.3.2. Group B
 - 3.3.3. Group AB
 - 3.3.4. Group O
4.
 - 4.1. Outline the pathophysiology of Haemolytic Disease of Foetus and New-born (HDFN). (30 marks)
 - 4.2. List four (04) factors affecting the severity of haemolysis in HDFN. (20 marks)
 - 4.3. State five (05) antibodies that frequently cause HDFN. (10 marks)
 - 4.4. Mention four (04) strategies that can be implemented to prevent HDFN. (30 marks)
 - 4.5. List the investigations available to measure the level of anti-D in a sensitized mother. (10 marks)
5.
 - 5.1. List the conditions that must be present for an infection to be transmitted by blood transfusion. (25 marks)
 - 5.2. List the mandatory transfusion transmissible infective agents that are tested at the National Blood Transfusion Service in Sri Lanka and the infective markers available to test them. (25 marks)
 - 5.3. Define the term “serological window period”. (10 marks)
 - 5.4. Outline the strategies to minimize the window period donations. (40 marks)

6. A 45-year-old woman received a blood transfusion following a road traffic accident. She complained of pain along the transfused arm, chest discomfort and shortness of breath 5 minutes after the initiation of the transfusion. Intern medical officer noticed that the blood group of the patient was O Rh D positive and the blood pack transfused to the patient was A Rh D positive.
- 6.1. List three (03) major complications of ABO incompatible blood transfusion.
(15 marks)
- 6.2. Briefly explain the management of the complications mentioned in 6.1.
(30 marks)
- 6.3. Outline the preventive strategies of ABO incompatible blood transfusions.
(55 marks)