



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

**THIRD YEAR FIRST SEMESTER EXAMINATIONS FOR THE DEGREE
OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE &
TECHNOLOGY WITH INFORMATION TECHNOLOGY
(MAIN CAMPUS)**

PMT 319: BLOOD TRANSFUSION AND TISSUE TYPING

Date: 8th April, 2014

Time: 2.45 - 5.00pm

INSTRUCTIONS:

- This paper consists of two sections, A& B.
- Answer ALL questions in Section A and FOUR questions in Section B.
- Read instructions for each section carefully before starting to answer the questions.



SECTION A: ANSWER ALL THE THREE (3) QUESTIONS

Indicate whether true (T) or false (F) in questions 1.& 2 and fill blanks in question 3 [15 marks]

1. a. ___ A 58 year old man weighing 70 kg may be selected for further screening to be a blood donor.
 - b. ___ If the man in a. has blood pressure readings 140/91 Hg mm, further screening is halted.
 - c. ___ If this same man grew up and lives in Nanyuki region and his Hb-level is 22 gm/dl, further testing is not for blood donation.
 - d. ___ A 60 year old lady happily appears to donate 2 days after her birthday. She may be included.
 - e. ___ A 25 year old asthmatic in stable condition may be screened for suitability to be a blood donor.
2. In immune haemolytic pathophysiology:
- a. ___ Rh-System mediated haemolytic disease of the new born (HDN) is rarer than the ABO-System one
 - b. ___ Rh-System mediated HDN is severer than the ABO-System mediated one
 - c. ___ The ABO-System mediated HDN is more likely in the first pregnancy than the Rh-System one.
 - d. ___ Specificity of the direct antiglobulin test (DAT) is higher in the Rh-HDN than in the ABO-HDN.
 - e. ___ HDN-related hyperbilirubinaemia is higher than ABO system related hyperbilirubinaemia
3. Fill in the blanks:
- a. The immunoglobulin (Ig) with the longest half life time ($T_{1/2}$) is Ig_____
 - b. The number of basic polypeptide units in IgM is _____
 - c. The least in quantity among the immunoglobulins is Ig___ and/or Ig_____
 - d. Transplacental transfer is generally seen with Ig_____
 - e. The shortest half life ($T_{1/2}$) in days is seen with Ig___ and Ig_____.

SECTION B: ANSWER QUESTION FIVE (5) AND ANY OTHER THREE (3) QUESTIONS 6-10:

5. Enlist in order of discovery the first ten (10) blood group systems and indicate which of them are most important in blood transfusion practice.
6. Chronologize in brief with dates the events and/or attempts in nearly 450 years from 1492 to 1940 which laid the basis for the start of modern blood transfusion science and practice.
7. Mention key steps in setting up a blood donation unit, static or mobile.
8. Describe 5 core laboratory screening tests to be performed on donated blood by a blood transfusion centre in Kenya.
9. Describe the Coombs tests.
10. Define Autologous Blood Transfusion and mention three major conditions in which it might be the best choice.