INSTRUCTIONS TO CANDIDATE

Time allowed is three (3) hours

Answers should be written in the answer book provided, writing on the right hand page only. The facing page may be used for rough work if desired.

The examination consists of:

- 2 essay style questions; each question is worth 35 marks.
- 20 short answer questions; each question is worth 5 marks.

ALL QUESTIONS SHOULD BE ATTEMPTED

Time allowed for writing is three (3) hours. There is an additional initial reading time of 15 minutes during which notes only may be written on this examination paper but no writing in the examination answer books is permitted at this time.
AIMS FELLOWSHIP EXAM
TRANSFUSION SCIENCE II
Production, Clinical Use and Management
of Blood and Blood Products

SHORT ANSWER QUESTIONS

20 Questions - each question is worth 5 marks
All questions should be attempted

Q1. Outline the requirements of the AS 3864 standard.

Q2. Write brief notes on screening methods used for detection of bacteria in platelet concentrates.

Q3. Briefly outline the conditions and quality assurance measures required for the irradiation of cellular blood components.

Q4. What is the international standard for barcode labelling of blood products? List the important attributes of this standard.

Q5. Briefly outline the importance of ADAMTS13 in fresh frozen plasma.

Q6. List the typical components of red cell storage solutions and their individual functions.

Q7. Write brief notes on the current status of development of haemoglobin based oxygen carriers.

Q8. Based on ARCBS data, what is the estimated residual risk of transfusion transmission per unit of blood, and the window period from time of exposure to detectability in testing, for each of the following:
   a. HCV
   b. HBV
   c. HTLV1

Q9. Write brief notes on the debate surrounding the use of DEHP in blood bags and the investigation of alternatives.
Q10. Under the TGA code of GMP, what details pertaining to the processing of a unit of blood must be recorded by a donor centre?

Q11. What methods are currently used by the ARCBS for screening donors for HBV?

Q12. List five (5) conditions for which IVIg has an established role as immunomodulation therapy.

Q13. What is the nature and function of aprotinin and in what clinical setting is it most commonly used?

Q14. List four (4) emerging blood transmitted infectious agents not currently subject to routine testing in Australian blood donor centres.

Q15. Briefly outline the function and fate of 2,3 DPG in stored whole blood.

Q16. Under the TGA code of GMP, what details should be recorded of the laboratory screening performed on a blood donor to determine suitability for donation acceptance?

Q17. What is the approximate percentage reduction in levels of Factors V, VII and VIII in Extended Life Plasma after five days post thaw storage.

Q18. Briefly outline the fractionation process used by CSL to produce plasma products.

Q19. Write brief notes on the strategies used to minimise the occurrence of TRALI in transfused patients.

Q20. What recombinant blood products are currently available for use in Australia?
ESSAY ANSWER QUESTIONS

2 Questions - each question is worth 35 marks
All questions should be attempted

Q1. Discuss the advantages and disadvantages of the various methods for producing donor platelet components. Include consideration of operational, efficiency and product quality aspects as well as therapeutic implications and risks.

Q2. What criteria should be met by the ideal pathogen inactivation procedure? Discuss the pathogen inactivation methods in use and under development for fresh blood components including red cells and whole blood, and the extent to which they meet the ideal criteria.

END OF EXAMINATION