[KS 188] **Sub. Code : 2082**

M.D. DEGREE EXAMINATION.

Branch XXI — Immunohaematology and Blood Transfusion

(For candidate admitted from 2004–05 onwards)

Paper II — IMMUNOHAEMATOLOGY, IMMUNOGENETICS, APPLIED SEROLOGY

Q.P. Code : 202082

Time : Three hours Maximum : 100 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 20 = 40)

1. Discuss the clinical considerations as applied to the Rh blood group system. (20)

2. Discuss the immunological characteristics as applied to uncommon blood groups. (20)

II. Write short notes on : (10 × 6 = 60)

1. Principles and applications of the Direct Antiglobulin Test
2. Advanced concepts of the "A" Blood group system.
3. High Titer and Low Avidity antibodies.
4. Group IV ABO discrepancies.
5. Clinical significance of Lewis antibodies.
6. Special problems in antibody identification.
7. Cold reactive antibodies.
8. Genetic basis for immunoglobulin production.
9. Investigation of incompatible major cross matches.
10. The Kell gene.

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March 2009

M.D. DEGREE EXAMINATION

[KU 188] **Sub. Code: 2082**

Branch XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

(For candidates admitted upto 2007-2008)

Paper II – IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P. Code : 202082

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.
Answer ALL questions.

I. Essay questions: **(2 x 20 = 40)**

1. Discuss serological characterization of antibodies in auto immune hemolytic anemia, its clinical significance and describe how you will provide transfusion support in these patients.

2. Describe the range of tests and investigations required as part of the pre transfusion testing of blood samples sent for 'cross-matching'. Explain how the pre-transfusion tests differ between conventional cross-matched blood and units released by electronic cross match.

II. Write short notes on : **(10 x 6 = 60)**

1. Role of flow cytometry in immunohaematology.
2. Transfusion support to patient with Bombay phenotype.
3. Rh immunoglobulin.
4. Use of lectins in red cell serology.
5. Partial D phenotypes.
6. Reagent red cell panels.
7. ELISA: types and principles.
8. Quality control of blood group reagents.
9. ISBT code 128.
10. HLA typing in bone marrow transplantation.

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February 2010

M.D. DEGREE EXAMINATION

[KW 188] **Sub. Code: 2082**

Branch XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

Paper II – (for candidates admitted upto 2007-2008) and
Part II / Paper II – (for candidates admitted from 2008-2009 onwards)

Paper II – IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P. Code : 202082

Time : Three hours **Maximum : 100 marks**

Draw suitable diagram wherever necessary.
Answer ALL questions.

I. Essay questions: **(2 x 20 = 40)**

1. Discuss the role of HLA and granulocyte antigens in transfusion and transplantation.
2. Discuss ABH antigens-antibodies in disease, ABO discrepancies and their resolution.

II. Write short notes on : **(10 x 6 = 60)**

1. Process of replication, transcription and translation.
2. Usefulness of patient's medical history in antibody identification.
3. Concepts of MN antigens.
4. Duffy – Malaria association.
5. Biochemistry of Lewis antigens.
6. Hardy-Weinberg principle.
7. Illustrate the immunogenecity of various blood group antigens.
8. Sources or error in the Anti human globulin technique.
9. Genetic basic of Rh antigen production.
10. Miscellaneous blood group antigens.

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MAY 2011

[KY 188] **Sub. Code: 2082**

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRASFUSION

IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P. Code : 202082

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. A 35 years old patient with AML has received apheresis platelet concentrate for correction of thrombocytopenia. Physician of the patient has noticed an increment in the post transfusion platelet count. How would you investigate and manage this patient?	11	35	15
2. Describe various types of cross matching methods. Discuss feasibility of implementing type and screen procedure as compared to conventional cross matching in India.	11	35	15
II. Write notes on :			
1. What do you mean by Transfusion Probability (TP), Transfusion Index (TI) and Cross-match to Transfusion Ratio (CTR)? What is their significance in transfusion medicine?	4	10	7
2. DAT negative auto immune hemolytic anemia.	4	10	7
3. Elution procedures and its application.	4	10	7
4. Compare and contrast Transfusion Associated Circulatory Overload versus Transfusion Related Acute Lung Injury.	4	10	7
5. Zeta potential.	4	10	7
6. Quantification of feto maternal hemorrhage.	4	10	7
7. Blood groups and disease association.	4	10	7
8. Quality standards for blood grouping antisera.			
9. Polyagglutination: lab diagnosis and its clinical significance.	4	10	7
10. Solid phase technology in Immunohematology.	4	10	7

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April 2012

[LA 188] **Sub. Code: 2082**

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P. Code : 202082

Time : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :	**Pages (Max.)**	**Time (Max.)**	**Marks (Max.)**
1. Classify Hemolytic Anemias and discuss Beta Thalassemia Major with particular emphasis on Transfusion Protocols.	16	35	15
2. Discuss the principles of Flow Cytometry using diagrams and flow charts and give the uses of flow cytometry in current Transfusion Medicine practice.	16	35	15

II. Write notes on :

1. Discuss passenger lymphocyte syndrome.	4	10	7
2. Acquired B phenomenon and its significance.	4	10	7
3. Rare variants of Rh system and their clinical significance.	4	10	7
4. Discuss solid phase technology in Immunohaemetology.	4	10	7
5. Discuss pathogenesis of Drug induced Autoimmune Hemolytic Anemia.	4	10	7
6. What is 'Rare Blood Donor'? Describe what factors you take into account while establishing Rare donor Registry in India.	4	10	7
7. Describe the various steps involved in pre-transfusion testing for a patient with positive Autocontrol.	4	10	7
8. Quality control and Quality assurance of Blood group Reagents.	4	10	7
9. Significance of Cross-match to Transfusion Ratio (CTR) in Transfusion Medicine	4	10	7
10. Discuss the principles of ELISA.	4	10	7

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(LC 188) APRIL 2013 Sub. Code: 2082

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P. Code: 202082

Time: Three Hours Maximum: 100 marks

I. Elaborate: (2x15=30)

1. Discuss the types, pathophysiology, laboratory evaluation and transfusion support in cases of Autoimmune Hemolytic Anemia.

2. Discuss the indications, principle , procedure, controls and utility of Antihuman Globulin test.

II. Write Notes on: (10x7=70)

1. Delayed Hemolytic Transfusion Reaction
2. ABO discrepancies observed during forward and reverse grouping, their causes and the diagnosis.
3. Monoclonal blood group reagents.
4. Techniques of Blood Grouping
5. Blood unit selection for Emergency Transfusion
6. Rh blood group genetics
7. Factors affecting red cell antigen antibody reaction
8. Polyagglutination
9. Prozone phenomenon
10. Adsorption and Elution

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(LE 188) **APRIL 2014** **Sub. Code:2082**

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

IMMUNOHAEMATOLOGY, IMMUNOGENETICS APPLIED SEROLOGY

Q.P.Code: 202082

Time: Three Hours **Maximum: 100 marks**

I. Elaborate on: **(2X15=30)**

1. Hemolytic disease of the new born – pathogenesis and diagnosis.

2. Typical serologic findings in warm autoimmune haemolytic anemia. Discuss the serologic problems encountered in pre-transfusion testing in such cases.

II. Write notes on: **(10X7=70)**

1. Platelet crossmatch methods and its application.
2. Polyagglutination.
3. Electronic crossmatch and its feasibility in the Indian setting.
4. Write an SOP for ABO blood grouping.
5. HLA in organ and bone marrow transplantation.
6. Investigations in a case of suspected Transfusion related acute lung injury.
7. Factors affecting antigen and antibody reaction.
8. Use of Lectin in Transfusion Medicine.
9. Reagent red cell panel – preparation and uses.
10. Bombay and para Bombay phenotypes.

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