[LQ 190] AUGUST 2020 **Sub. Code: 3014**

(MAY 2020 SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

PAPER IV – RECENT ADVANCES IN TECHNOLOGY

Q.P. Code: 203014

Time: Three Hours **Maximum: 100 Marks**

I. Essay Questions: **(2 x 15 = 30)**

1. a. Indications and principle of extra corporeal photopheresis.
   b. Discuss its efficacy in the treatment of graft-versus-host disease.

2. a. Various methods of bacterial detection and pathogen inactivation in blood components.
   b. Various technologies under development to lengthen the storage life in platelet concentrates.

II. Short notes: **(10 x 7 = 70)**

1. COVID-19 and blood safety.
2. Cytapheresis: indications and techniques.
3. a. What is pegylated G-CSF?
   b. What are other pegylated products used in hematology?
4. Application of “LEAN” concept in transfusion medicine.
5. Nested polymerase chain reaction.
6. Biotin-labeled platelets.
7. Rejuvenated RBCs.
8. Monocyte monolayer assay.
9. Blood Group phenotyping by (Nitrocellulose based – LFT) lateral flow technique.
10. Stem cell therapy in HIV patients.

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[MD 0721] JULY 2021 **Sub. Code: 3014**

(MAY 2021 SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

PAPER IV – RECENT ADVANCES IN TECHNOLOGY

Q.P. Code: 203014

Time: Three Hours **Maximum: 100 Marks**

I. Essay Questions: **(2 x 15 = 30)**

1. Impact of Covid-19 on blood transfusion services with special reference to India. Add a note on disaster management.
2. Write in detail about CAR T cell therapy.

II. Short notes: **(10 x 7 = 70)**

1. Automation in blood banking.
2. Cryopreservation of platelets.
3. Legal aspects in blood banking.
4. Emerging infection.
5. Microvesicles.
6. Microarray.
7. Rare donor registry.
8. Blood substitutes.
9. Radio Frequency Identification (RFID) in transfusion medicine.
10. Extra Corporeal Membrane Oxygenation (ECMO).

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MD 0522] **MAY 2022** **Sub. Code: 3014**

M.D. DEGREE EXAMINATION
BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

PAPER IV – RECENT ADVANCES IN TECHNOLOGY

Q.P. Code: 203014

Time: Three Hours **Maximum: 100 Marks**

I. Essay Questions: **(2 x 15 = 30)**

1. Define Febrile Neutopenia. Discuss in detail about Therapeutic Granulocyte collection and transfusion in the current Era.

2. Safety and hemostatic efficacy of cold stored platelets.

II. Short notes: **(10 x 7 = 70)**

1. Accreditation of Blood Banks.
2. Adoptive Immunotherapy.
3. Topical Preparation and Application of Fibrin glue and Platelet Rich plasma.
4. Blood Pharming.
5. Next-Generation Sequencing Technologies in Blood Group Typing.
6. CRISPAR-Cas system in Transfusion Medicine.
7. M-TRAP technology in detection of ABO groups and its subgroups.
8. Stem cell registry.
9. Hemovigilance Programme of India (HvPI). Add a note on National Donor Vigilance Programme. (NBDVP).
10. Neutralizing antibody titres in SARS-COV-2 convalescent plasma.

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THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[MD 0723] **JULY 2023** **Sub. Code: 3014**
(MAY 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXI – IMMUNOHAEMATOLOGY AND BLOOD TRANSFUSION

PAPER IV – RECENT ADVANCES IN TECHNOLOGY

Q.P. Code: 203014

Time: Three Hours **Maximum: 100 Marks**

I. Essay Questions: **(2 x 15 = 30)**

1. Describe the different types of adoptive immunotherapy, including T cell therapy, Chimeric Antigen Receptor (CAR) T cell therapy and Natural Killer (NK) cell therapy.
2. Role of Point of Care (POC) testing to reduce transfusions in elective surgeries.

II. Short notes: **(10 x 7 = 70)**

1. Role of Artificial intelligence (AI) in transfusion medicine.
2. Emerging infections and its relevance to transfusion medicine. How do you formulate a plan of action for an emerging infection and testing in blood bank?
3. Transfusion Associated Acute Gut Injury (TRAGI)
4. Elaborate the key factors of theory of planned behaviour.
5. Briefly describe the role of blood bank software and its application.
6. Write briefly on the RBC proteomics and its significance in the field of Transfusion Medicine.
7. Briefly explain the principle, procedure, and applications of Monoclonal Antibody Immobilization of Platelet Antigen (MAIPA) assay.
8. 'Walking' Blood Bank (WBB).
9. Pathogen Inactivation techniques for plasma and its significance in plasma fractionation.
10. Rh null blood group and its significance in medical research.

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