

**IMMUNO HAEMATOLOGY AND BLOOD TRANSFUSION**

**PAPER-III**

Time: 3 hours

IMHT/D/20/15/III

Max. Marks:100

**Important Instructions:**

- *You are provided with 5 answer sheet booklets. Each individual answer sheet booklet consists of 10 pages excluding the covering jackets.*
- *Answers to all the questions must be attempted within these 5 answer sheet booklets which must be later tagged together at the end of the exam.*
- *No additional supplementary answer sheet booklet will be provided.*
- *Attempt all questions in order.*
- *Each question carries 10 marks.*
- *Read the question carefully and answer to the point neatly and legibly.*
- *Do not leave any blank pages between two answers.*
- *Indicate the question number correctly for the answer in the margin space.*
- *Answer all the parts of a single question together.*
- *Start the answer to a question on a fresh page or leave adequate space between two answers.*
- *Draw table/diagrams/flowcharts wherever appropriate.*

**Write short notes on:**

1. An O RhD negative antenatal mother at 28 weeks of 2<sup>nd</sup> gestation is found to have anti D titer of 8. 2+3+3+2
  - a) What follow-up advice you would give to the treating obstetrician?
  - b) What is the critical titer of anti D and write down the doubling dilution procedure to find out the titer in this patient?
  - c) What measures you would initiate to plan for intrauterine transfusion, if indicated at later date of gestation?
  - d) How do you prevent RhD alloimmunization in RhD Negative mothers?
2. First newborn in a family presents with petechiae and isolated thrombocytopenia at birth. 2+5+3
  - a) What is the probable diagnosis?
  - b) Explain the pathophysiology and clinical manifestations of the condition diagnosed.
  - c) Laboratory diagnosis, treatment and prevention of recurrence in future pregnancy.
3. Blood sample was collected from a 40-year-old female with suspected hemolytic anemia showed positive DAT and nonreactive eluate. The patient was recently treated for urinary tract infection. 2+3+5
  - a) What is the probable diagnosis?
  - b) How do you confirm the diagnosis?
  - c) Proposed theoretical mechanisms & treatment of the condition diagnosed.
4. Discuss the etiopathogenesis of disseminated intravascular coagulation (DIC). Discuss the laboratory diagnosis and transfusion support in a case of DIC. 4+(3+3)
5. Explain in detail the RBC, Platelet and Plasma transfusion support for patients undergoing ABO incompatible Hematopoietic Stem cell Transplantation. 10

**P.T.O.**

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| 6.  | Role of fresh whole blood transfusion in trauma patients.  | 10    |
| 7.  | Collection and processing of hematopoietic progenitor cells.   | 10    |
| 8.  | a) Salient changes incorporated in the new donor selection criteria and its impact in transfusion services.<br>b) Donor deferral criteria with respect to Covid vaccination.   | 7+3   |
| 9.  | Pathogen inactivation methods.   | 10    |
| 10. | Discuss the basic concepts of RBC freezing and rejuvenation. Describe the techniques involved in this procedure. Enumerate the advantages and disadvantages of this technique. | 3+3+4 |

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