



B-4268

**M. D. (Immunohaematology & Blood Transfusion)  
Examination**

April / May - 2017

**Paper - I : Basic Sciences Related to  
Immunohaematology & Blood Transfusion**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दशांश विधि में निशानीवाणी विगतो उत्तरपदी पर अवश्य लिखनी. Fill up strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/> <input type="text"/> <input type="text"/> 601
<b>M. D. (IMMUNO. &amp; BLOOD TRANSFUSION)</b>	
Name of the Subject :	
<b>P.-I : BASIC SCI. RELA. TO IMMUNO. &amp; BLOOD TRAN.</b>	
Subject Code No. : <input type="text"/> 4 <input type="text"/> 2 <input type="text"/> 6 <input type="text"/> 8	Section No. (1, 2,.....) : <input type="text"/> Nil

- (2) Use blue/black pen only.
- (3) Do not write anything on the blank portion of the question paper.
- (4) The number to the right indicates full marks.
- (5) Draw diagrams wherever necessary.

- 1 Describe morphological and biochemical changes occurring during storage of red blood cells in blood banking conditions. Discuss clinical consequences of red cell storage lesions. **25**
- 2 Describe pathways in coagulation cascade and discuss the role of naturally occurring coagulation inhibitors. **25**
- 3 Write short notes on any five of the followings : **10×5=50**
  - (a) Zeta potential and its applied aspects
  - (b) Biochemical markers for laboratory diagnosis of iron deficiency
  - (c) Human platelet antigens : Classification and methods of detection
  - (d) Pro inflammatory cytokines and its applied aspects
  - (e) Secondary immune response and its significance in transfusion medicine
  - (f) Mixed lymphocyte culture test.

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**B-4269**

**M. D. (Immunohaematology & Blood Transfusion)  
Examination**

**April / May - 2017**

**Paper - II : Immunohematology, Immunogenetics  
& Applied Serology**

**Time : 3 Hours]**

**[Total Marks : 100**

**Instructions :**

(1)

नीचे दशांशक निशानीवाणी विगतो उत्तरवही पर अवश्य दधनी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/> <input type="text"/> <input type="text"/> 801
<b>M. D. (IMMUNO. &amp; BLOOD TRANSFUSION)</b>	 Student's Signature
Name of the Subject :	
<b>P. - II : IMMUN., IMMUNO. &amp; APPL. SEROLOGY</b>	
Subject Code No. : <input type="text"/> 4 <input type="text"/> 2 <input type="text"/> 6 <input type="text"/> 9	Section No. (1, 2,.....) : <input type="text"/> Nil

- (2) Use blue/black pen only.
- (3) Do not write anything on the blank portion of the question paper.
- (4) The number to the right indicates full marks.
- (5) Draw diagrams wherever necessary.

- 1 Describe various types of cross matching methods. 25  
Discuss feasibility of implementing Type and Screen procedure as compared to Conventional Cross Matching in India.
- 2 Describe laboratory diagnosis and transfusion management 25  
in a case of Warm Autoimmune Hemolytic Anemia.
- 3 Write short notes on any five of the followings : 10×5=50
  - (a) Role of blood groups in paternity testing
  - (b) Titration of anti-A and anti-B and its clinical significance
  - (c) Discuss quality essential elements in Immunohematology Lab
  - (d) Compare and contrast Major Histocompatibility Complex (MHC) class I and class II proteins
  - (e) Passenger lymphocyte syndrome
  - (f) Molecular basis of partial D.



B-4270

**M. D. (Immunohaematology & Blood Transfusion)  
Examination**

April / May - 2017

**Blood Bank Operation, Blood Donor Organization,  
Technology of Components &  
Clinical Hemotherapy : Paper - III**

Time : 3 Hours]

[Total Marks : 100

**Instructions :**

(1)

नीचे दृष्टांतक निशानीवाणी विगतो उत्तरवही पर अवश्य लपवी.  
Fillup strictly the details of signs on your answer book.

Name of the Examination :  
M. D. (IMMUNO. & BLOOD TRANSFUSION)

Name of the Subject :  
BLOOD BANK OPER., BLO. DON. ORGA.... P. - III

Subject Code No. : 4 2 7 0 Section No. (1, 2,.....): Nil

Seat No. :    8 0 1

Student's Signature

- (2) Use blue/black pen only.
  - (3) Do not write anything on the blank portion of the question paper.
  - (4) The number to the right indicates full marks.
  - (5) Draw diagrams wherever necessary.
- 1 Discuss the factors that need to be considered for the optimal transfusion therapy in long-term transfusion dependent patient. 25
  - 2 Discuss bacterial contamination of red cells and platelets. Describe the strategies for minimizing this risk of bacterial contamination. 25
  - 3 Write short notes on any five of the followings : 10×5=50
    - (a) GMP in blood component laboratory
    - (b) Strategies for blood donor motivation
    - (c) Factors affecting the quality of fresh frozen plasma
    - (d) Plasma Policy of India.
    - (e) Indications for gamma irradiated blood components
    - (f) Compare and contrast pooled random donor platelets and single donor platelets.



B-4271

**M. D. (Immunohaematology & Blood Transfusion)  
Examination**

April / May - 2017

**Paper - IV : Recent Advances & Technology**

Time : 3 Hours]

[Total Marks : 100

**Instruction :**

(1)

नीचे दशांशव निकासीवाणी विगतो उत्तरवकी पर अवश्य वनवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
<input checked="" type="checkbox"/> M. D. (Immunohaematology & Blood Transfusion)	
Name of the Subject :	
<input checked="" type="checkbox"/> Paper - IV : Recent Advances & Technology	
<input checked="" type="checkbox"/> Subject Code No. : <input type="text"/> 4 <input type="text"/> 2 <input type="text"/> 7 <input type="text"/> 1 <input checked="" type="checkbox"/> Section No. (1, 2,.....) : <input type="text"/> Nil	

- (2) Use blue/black pen only.
- (3) Do not write anything on the blank portion of the question paper.
- (4) The number to the right indicates full marks.
- (5) Draw diagrams wherever necessary.

- 1 Describe the principle of "Patient Blood Management" (PBM). How would you apply the concept of PBM in a 60 years old male patient undergoing elective open heart surgery? 25
- 2 Discuss key laboratory aspects of quality assurance in Transfusion transmitted infection screening in blood banks. 25
- 3 Write short notes on any five of the following : 10×5=50
  - (a) Microarray and its applications in Transfusion Medicine
  - (b) Compare and contrast peripheral blood and cord blood as a source of stem cells for transplantation.
  - (c) Cascade plasmapheresis
  - (d) Induced pluripotent stem cell
  - (e) Wrong Blood In Tube (WBIT) : discuss causes and prevention
  - (f) Recombinant human erythropoietin