Enrollment No._____

NAVRACHANA UNIVERSITY
a UGC recognized University

School: School of Science
Program/s: BMS
Year: 3rd **Semester:** 5th
Examination: End Semester Examination
Examination year: December - 2021

Course Code: BM301, **Course Name:** Immunology II.
Date: 06/12/2021 **Total Marks:** 40
Time: 11.30am to 1.30 pm **Total Pages:** 02

Instructions:
- ➔ *Write each answer on a new page.*
- ➔ *Draw the diagram wherever necessary*
- ➔ *Stick to the Word Limit given in the Questions.*

Q. No.	Details	Marks	CO	BTL
Q.1	In the table below, indicate whether each immunologic event listed does (+) or does not (–) occur in each type of hypersensitive response.	1x8=8	CO1 CO2	BTL1 BTL2 BTL3
Q.2	**Answer the following and state with justification whether the statement is true/false (20-30 words only per answer)** 1. The high-affinity IL-2 receptor consists of two transmembrane proteins. 2. All cytokine-binding receptors contain two or three subunits. 3. All members of each subfamily of the class I cytokine (hematopoietin) receptors share a common signal transducing subunit.	2x4=8	CO3	BTL1 BTL2

Immunologic event	Hypersensitivity			
	Type I	Type II	Type III	Type IV
IgE-mediated degranulation of mast cells				
Lysis of antibody-coated blood cells by complement				
Tissue destruction in response to poison oak				
C3a- and C5a-mediated mast-cell degranulation				
Chemotaxis of neutrophils				
Chemotaxis of eosinophils				
Activation of macrophages by IFN-γ				
Deposition of antigen-antibody complexes on basement membranes of capillaries				
Sudden death due to vascular collapse (shock) shortly after injection or ingestion of antigen				

	4. Some cytokine receptors possess domains with tyrosine kinase activity that function in signal transduction			
Q.3	**Answer the following – *any four* (max 300-350 words per answer)** 1. IL-3, IL-5, and GM-CSF exhibit considerable redundancy in their effects. What structural feature of the receptors for these cytokines might explain this redundancy? 2. Explain the mechanism behind depot formation and its associated therapy. 3. While working on a disease condition, a scientist finds the different clusters of antibodies. Being an immunologist, list the attributes that explain the antibody antigen interactions. 4. Discuss the different candidate markers which are assign to play a role in auto immunity. 5. Elucidate at least one experiment that proves vaccines are the agents that increases the immunity.	**3x4=12**	**CO1** **CO2** **CO3**	**BTL1** **BTL2**
Q.4	**Answer the following (max 500 words per answer).** 1. A person was found to have clusters of IgM and IgG. Describe the players from the development of hypersensitive reactions towards the development of autoimmune response. 2. Which type of vaccines according to you works best. Justify your answer by giving the merits of the selected vaccine and demerits of non-selected one.	**6x2=12**	**CO1** **CO2** **CO3**	**BTL1** **BTL2**

----------All The Very Best----------