Question Paper Code: UD305 B.E./B.Tech. DEGREE EXAMINATION, APRIL 2024 Professional Elective Biotechnology 21BTV305 VACCINE TECHNOLOGY (Regulations 2021) Duration: Three hours Maximum: 100 Marks Answer All Questions PART A - (10x 2 = 20 Marks) 1. Define the term "Vaccine" CO1 U 2. Recite the term "Immunization" CO1 U 3. List out the types of white blood cells and mention which one is first arrived at CO1 U CO1 U 4. Write the immunological significance of the Interferons and Phagocytes CO1 U 5. Vaccines can also be designed using dendritic cells. How? CO2 App 6 Write down the new vaccine made in india against TB. CO1 U 7 Hepatitis A Vaccine is non-essential. Give reasons CO2 App 8 Tetanus Toxoid, commonly called as 'TT' is normally administered CO2 App 9 Many vaccines failed for Covid-19 after some initial success. Why? CO2 App 10 Distinguish between 'Covaxin' vaccine and 'Covi shield' vaccine CO1 U PAR		R	eg. No. :												
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12.	(a)	Imagine that you are selected as a Clinical Immunologist in Multispeciality Hospital. Develop a detailed note about how the body's innate defense system is functioning and write in detail about the internal and external defenses.	CO1 U	(16)
	(b)	Explain in detail about the Lymphatic system and its function with neat diagram. Write short notes about hematopoiesis?	CO1 U	(16)
13.	(a)	Describe the rationale approach for vaccine development in detail.	CO1 U	(16)
		Or		
	(b)	Explain the cause, effect and importance of T cell repertoire in detail.	CO1 U	(16)
14.	(a)	Explain the mechanism, procedure and advantages in the design of Hepatitis B Vaccine	CO1 U	(16)
		Or		
	(b)	What is a toxoid? How is it different from a attenuated or live vaccine? What is its need? Explain the design of Diphtheria toxoid	CO1 U	(16)
15.	(a)	Outline the process of using 'immune informatics for 'better' vaccine design in detail. Highlight the ramifications in designing novelty in vaccine technology	CO2 App	(16)
		Or		
	(b)	A Computer Science student wants to do a project on vaccine design. Provide strategies and help him in designing a 'nearly' successful vaccine candidate using software.	CO2 App	(16)