



**NAVVRACHANA  
UNIVERSITY**  
a UGC recognized University

**School:** School of Science  
**Program/s:** Master of Science  
**Year:** 2<sup>nd</sup> **Semester:** 3<sup>rd</sup>  
**Examination:** End Semester examination  
**Examination year:** December- 2022

**Course Code:** DIG301 **Course Name:** Molecular Diagnostics  
**Date:** 06/12/2022  
**Time:** 08:30 to 10:30 am

**Total Marks:** 40  
**Total Pages:** 02

Q. No.	Details	Marks	COs*	BTL#
Q.1	<p><b>A. Choose the correct answer.</b></p> <p>1. _____ is a key characteristic of an antigen.</p> <p>a. eliciting immune response                      b. possess antibody binding domain c. posses unique structure                          d. all of the above</p> <p>2. _____ is an additional component in the structure of IgM and IgA.</p> <p>a. amino acid side chain                              b. -SH bonds c. J-chain                                                      d. None of the above</p> <p>3. _____ is an antigen binding domain in an antibody structure.</p> <p>a. Fab domain                                              b. Fc domain c. both a and b                                              d. None of the above</p> <p>4. _____ is the principle behind studying immunocytochemistry.</p> <p>a. antigen-antibody interaction                      b. antigen type only c. antibody type only                                      d. None of the above</p> <p>5. Serodiagnosis measures _____ in the blood to confirm the degree of infection.</p> <p>a. antigen                                                      b. antibody c. titre of epitope                                              d. None of the above</p> <p>6. _____ media is/are generally used in microbial diagnosis</p> <p>a. Nutrient agar                                              b. Chocolate agar c. Blood agar                                                      d. All of the above</p> <p>7. _____ antibodies are specific to one antigen epitope</p> <p>a. polyclonal antibodies                                      b. monoclonal antibodies c. both a and b                                                      d. None of the above</p>	10 M	CO1 CO2 CO3 CO4 CO5	BTL1 BTL2 BTL3

	<p>8. The full form of ELISA is _____</p> <p>a. Enzyme Linked Immunoabsorbent Assay      b. Enzyme Leached Immunosorbent Assay</p> <p>c. Enzyme Linked Immunosorbent analysis      d. none of the above</p> <p>9. _____ is for quantitative measurement of antigens</p> <p>a. RIA      b. RIE</p> <p>c. direct eliza      d. all of the above</p> <p>10. _____ is for quantitative measurement of antibodies</p> <p>a. RIA      b. RIE</p> <p>c. indirect eliza      d. None of the above</p>			
<p><b>Q-2</b></p>	<p><b>Answer any 6 from below.</b></p> <ol style="list-style-type: none"> <li>1. Provide a comparative list of direct and indirect ELISA methods.</li> <li>2. Provide advantages of rocket immunoelectrophoresis over radial immunodiffusion assay.</li> <li>3. Enlist key types of immunoglobulins found in humans.</li> <li>4. What is the importance of sampling type in a diagnosis process?</li> <li>5. Provide a schematic diagram of immunocytochemistry process.</li> <li>6. Provide a comparison between gram positive and gram negative bacteria based on their cell membrane and cell wall composition.</li> <li>7. Write a short note on the role of RT-PCR in diagnosis.</li> </ol>	<p><b>30 M</b></p>	<p>CO1 CO2 CO3 CO4 CO5</p>	<p>BTL1 BTL2 BTL3</p>

\*\*\*\*\*End of Question Paper\*\*\*\*\*