

Enrollment No. _____



**NAVVRACHANA
UNIVERSITY**
a UGC recognized University

School: School of Science
Program/s: Biomedical Science
Year: 2nd **Semester:** III
Examination: End Semester Examination
Examination year: December - 2022

Course Code: BM205 **Course Name:** Biophysics
Date: 13/12/2022
Time: 11:30 am to 1:30 pm

Total Marks: 40
Total Pages: 2

Instructions:

- Draw labelled diagrams where ever necessary
 → * COs=Course Outcome mapping. # BTL=Bloom's Taxonomy Level mapping

Q. No.	Details	Marks	COs*	BTL#
Q.1	<p>Objective Type Questions (8 x 1 mark = 8 marks)</p> <p>1. Image of distant object will be formed _____ in person with Hyperopia?</p> <p>a) behind retina b) in front of the retina c) on the retina d) on the blindspot</p> <p>2. Lenses to be used by a person who cannot see far objects are</p> <p>a) Concave b) Convex c) Plane d) Bifocal</p> <p>3. Which kind of forces cause the liquid molecules to be attracted to each other for surface tension to occur?</p> <p>a) Intramolecular force b) Intermolecular force c) Both Inter and Intra molecular forces d) Covalent force</p> <p>4. Reynolds Number is used to predict the type of blood flow in a blood vessel. It does not depend on which of the following factor?</p> <p>a) Vessel diameter</p>	08	CO1, CO2, CO3	BT1, BT3, BT4

	b) Pressure of fluid c) Viscosity d) Density 5. _____ is the disease caused in premature infants due to reduced levels of surfactants. 6. Humans excrete _____ as their nitrogenous waste. Justify. 7. Most detailed vision is obtained on the _____. 8. Second law of thermodynamics explains the concept of _____.			
Q.2	Answer in brief (6 x 2 marks = 12 marks) (max 100 words) 1. Give two examples of sounds produced by animals other than human beings. 2. What causes the bio-membranes to be charged? 3. Define phagocytosis and pinocytosis. 4. Define fundamental and harmonics. 5. With a simple diagram, explain the concept of activation energy. 6. How do fishes regulate buoyancy?	12	CO1, CO2, CO3	BT1, BT3, BT4
Q.3	Answer in detail (Any Four) (4 x 5 marks = 20 marks) (max 200 words) 1. What is the importance of viscosity in blood physiology? 2. Which are the factors that contribute to the curvature of biological membranes? Why is membrane curvature related to its functions? 3. With the help of a labelled diagram explain the components of a bio-membrane and their functions. 4. Which are the various factors that tell you about the quality and performance of the incoming sound? Explain briefly. 5. What is Bernoulli's principle and how is it related to human physiology? 6. Describe the disorders of vision and the methods to correct them.	20	CO1, CO2, CO3	BT1, BT3, BT4

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