

## **BIOPHYSICS QUESTION BANK**

### **CHAPTER -1 INTRODUCTION TO BIOPHYSICS**

1. What are fundamental units?
2. What are derived units?
3. How many basic units are there in SI system?
4. Difference between mass and weight?
5. Define the SI unit of length?
6. Define the SI unit of mass?
7. Define the SI unit of time?
8. Discuss the meaning and important of biophysics in nursing?

### **CHAPTER-2 MOTION**

1. What is a scalar quantity?
2. What is a vector quantity?
3. State characteristic of displacement?
4. Define the term average speed?
5. Define the term average velocity?
6. What is momentum?
7. Discuss the type of motion?
8. Define acceleration?
9. Define velocity?
10. A fast moving wheelchair on which a patient is sitting should not be stopped suddenly, discuss?

### **CHAPTER 3 GRAVITY**

1. What is specific gravity?
2. Give the density of bone and blood?
3. Define center of gravity?
4. What is stable equilibrium?
5. What is unstable equilibrium?
6. What is neutral equilibrium?
7. State the law of gravitation?
8. Explain the effect of gravity on human body?
9. Explain the applications of gravity in nursing?
10. State the law of floatation?
11. Explain hydrometer and its uses?

## **CHAPTER- 4 FORCE, WORK AND ENERGY**

1. Explain force, type with example?
2. What is centripetal force?
3. What is centrifugal force?
4. Differentiate between mass and weight?
5. Explain Newton third law of motion with example?
6. Explain Newton's second law of motion with example?
7. State three Newton's law of motion?
8. Explain Newton's law first of motion?
9. Explain work?
10. Explain principles of machines?
11. What is efficiency and mechanical advantages of a machine?
12. Explain principles of fraction?
13. Explain body machines?
14. Explain LEVER?
15. Explain pulley?
16. Traction is used in the treatment of some fractures. explain it?
17. Explain inclined plane?
18. Define weges?
19. What are the application of principles in nursing?
20. Explain screw with example?

## **CHAPTER- 5 HEAT**

1. Differentiate between heat and temperature?
2. Explain transfer of heat?
3. Write application of principles of heat in nursing?
4. Explain effect of heat on matter?
5. Regulation of body temperature?
6. Explain relative humidity and importants ?
7. Uses of heat for sterilization?
8. Explain the clinical thermometer?

## **CHAPTER-6 LIGHT**

1. State the law of reflection?
2. State the law of refraction?
3. Explain electro magnetic radiation?
4. Explain about lenses?
5. What is a binocular vision?
6. Application of light in nursing?
7. What is presbyopia?
8. What is astigmatism?
9. Uses of light therapy?
10. What is mean by biological effect of light?
11. What is Myopia?
12. What is hypermetropia?
13. Explain ultra violet radiation?
14. Explain x-ray and their uses?

## **CHAPTER-7 PRESSURE**

1. what is hydrostatic Pressure?
2. Explain osmosis?
3. State the pascals law? Give two examples of its application in the human body?
4. Important of pressure in human body?
5. Which is the measurement of pressure?
6. Explain osmotic pressure?
7. Mouth to mouth respiration in respiratory distress?
8. Factors affecting pressure and the two pressure in the human body?

## **CHAPTER-8 SOUND**

1. What is ultrasound ?
2. Define frequency ,velocity and intensity?
3. Define sound intensity?
4. Explain the Vocalization?
5. Write short notes on hearing aid?
6. What is noise pollution? how it will be prevented?
7. What is Doppler Effect?
8. What is deafness? How it can be tested?
9. What is difference between musical sound and noise?
10. Applications of sound in nursing?
11. Explain pitch, loudness and quality of musical note?

## **CHAPTER-9 ELECTRICITY AND ELECTROMAGNETISM**

1. Define one coulomb?
2. What is resistance?
3. Explain the heating effect?
4. State the joules law of heating ?
5. Explain the electrolysis?
6. Explain EEG?
7. Explain EMG?
8. Write short notes on ECG?
9. Write short notes on ECT?
10. What is transformer?
11. Describe the CT scan with principle?
12. Describe the MRI Scanner and its principles ?

## **CHAPTER-10 ATOMIC ENERGY**

1. Explain atomic structure?
2. What is isotope?
3. What is isomer and isotone?
4. How X ray are produced?
5. Write down the property of x ray?
6. What is half life of period?
7. Give the properties of gamma rays?
8. Explain biological effect of radiation?
9. Write short notes on radiation limit?
10. Explain the radiation units?

## **CHAPTER -11 PRINCIPLE OF ELECTRONIC**

1. What is semiconductor?
2. Describe semiconductor diode
3. Explain a transistor?
4. Describe digital thermometer?
5. Describe the ventilator?
6. Describe the cardiac fibrillation?
7. Describe a pacemaker
8. What is rectifier?