

www.FirstRanker.com

www.FirstRanker.com

Roll No.	Total	No. of Pages : 02
Total No. of Questions : 09		
B.Tech. (Ind. Engg. & Mgt. (Spl. in TQM)) APPLIED PHYSICS) PT	(Sem.–1)
Subject Code : IEM-103		
M.Code : 61003		
		Max Marks 10

Time: 3 Hrs.

Max. Marks: 40

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt All EIGHT questions from SECTION-A carrying TWO Marks each.
- 2. Attempt any SIX out of EIGHT questions from SECTION-B carrying FOUR marks each.

SECTION-A

1. Write briefly :

- a. What are the advantages of SI system of units?
- b. State and explain Newton's second law of motion.
- c. A truck and a car are moving with same kinetic energy on a straight road. Their engines are simultaneously switched off. Which one will stop at a lesser distance?
- d. State 'Bernoulli's principle'.
- e. State the law of conservation of energy.
- f. State and explain 'Ampere law'.
- g. Transverse waves are not produced in liquids and gases. Why?
- h. Differentiate between intrinsic and extrinsic semiconductors.

SECTION-B

2. Explain the need for measurements in physics. What do you know about fundamental and derived units?

(S109)-2368

FirstRanker.com

- 3. A force of 0.04 Newton acts upon a body. As a result, the speed of the body changes from 0.30 ms⁻¹ to 0.10 ms⁻¹, in passing through a certain distance. Find the distance if the mass of the body is one kilogram.
- 4. State and explain work energy theorem.
- 5. Explain surface energy. Establish its relation with surface tension.
- 6. Discuss the different mechanisms of heat transfer with illustrations.
- 7. A uniform field of magnetic induction **B** points horizontally from south to north, its magnitude is 1.5 Wb/m^2 . If a 5 MeV proton moves vertically downward through this field, what force will act on it?
- 8. What are standing waves? Give important characteristics of standing waves.
- 9. Explain the operation of a p-n junction in the forward and reverse biased conditions and draw the forward and reverse biased characteristics.

www.firstRanker.com

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

2 | M-61003

(S109)-2368