V.P.M's B. N. Bandodkar College of Science, Thane
F.Y.J.C First Terminal Examination November 2018
Subject: Physics

Date: 22.11.2018 **Time: 08.00 am to 10.00 am**
Day: Thursday **Marks: 50**

Note: 1) All questions are compulsory.
2) Section 'A' contains Q. no 1 to 3 of multiple choice type of questions carrying one mark each. Q. no 4 to 6 are very short answer type of questions carrying one mark each.
3) Section 'B' contains Q. no 7 to 11 of short answer type of questions carrying two marks each. Internal choice is provided to only one question.
4) Section 'C' contains Q. no 12 to 19 of short answer type of questions carrying three marks each. Internal choice is provided to only one question.
5) Section 'D' contains Q. no 20 and 21 of long answer type of questions carrying five marks each. Internal choice is provided to each question.
6) Use of logarithmic table is allowed. Use of calculator is not allowed.

Section – A

Q.1 $[L^1M^1T^{-1}]$ are dimension of _____ **01**

a) velocity b) momentum c) pressure d) displacement

Q.2 If object is placed at a distance of 25 cm from a convex lens of focal length 10 cm then the position of image is from the convex lens is at **01**

a) 16.7 cm b) 18 cm c) 19 cm d) 20.7 cm

Q.3 Out of addition, subtraction, dot product and cross product the following operations are commutative. **01**

a) dot and cross products b) subtraction and cross product

c) addition and dot product d) addition and subtraction

Q.4 State Pascal's law. **01**

Q.5 How focal length and radius of curvature of a spherical mirror are related to each other? **01**

Q.6 Define conductivity. Write its unit. **01**

Section – B

Q.7 State the rules to determine the significant figures. **02**

Q.8 A glass slab of length 4 cm and breadth 1 cm is kept on a thin layer of glycerine of thickness 1 mm. A horizontal force of 0.05 N is just sufficient to move the slab over glycerine with the velocity 2 cm/s. Calculate η (coefficient of viscosity). **02**

Q.9 Differentiate between primary rainbow and secondary rainbow. **02**

OR

Q.9 Explain total internal reflection in mirage. **02**