R16

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, July - 2021
ENGINEERING PHYSICS
(Common to CE, ME, MCT, MMT, AE, PTM, MSNT)

Time: 3 hours   **Max. Marks: 75**

Answer any five questions
All questions carry equal marks
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1.a) Describe interference in thin films by transmitted light.
 b) Describe Newton's rings experiment to determine wave length of light.   [7+8]

2.a) Explain N slit diffraction quantitatively.
 b) Describe interference in thin films by reflected light.   [7+8]

3.a) Discuss the working of quarter wave plate.
 b) Distinguish between spontaneous and stimulated emission.   [7+8]

4.a) Describe the theory of double refraction.
 b) Explain the working of semi conductor laser.   [7+8]

5.a) Distinguish between step index and graded index fibre.
 b) What are the applications of fibres in medicine?   [7+8]

6.a) Derive the equation for numerical aperture and acceptance angle of a fibre.
 b) Define acceptance cone and explain its significance.   [7+8]

7.a) Describe the classification of Bravais lattices.
 b) Discuss about diamond lattice.   [7+8]

8.a) Estimate the number of Frenkel defects at a given temperature.
 b) Distinguish between Frenkel and Schottky defects.   [7+8]

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