



AJEENKYA

D Y PATIL UNIVERSITY

End Term Examination (December 2018)

School : of Engineering

Course: Introduction To Physical Sciences

Semester: I

Max Marks: 50

Program: B.Tech

Course Code: ENG103

Duration (mins) : 120

Note : 1. Figures to the right indicates full marks.
2. All questions are compulsory

Q. No. 1 Define following terms – (Each question carries 1 marks) (any 10) (10)

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|-----------------------|----------------------------------|
| a. Reverberation | g. Piezo-electric effect |
| b. Purpose of doping | h. Magnetic field (B) |
| c. Hysteresis | i. Atomic packing fraction (APF) |
| d. Superconductivity | j. Diamagnetism |
| e. Ferrimagnetism | k. Persistent current |
| f. Solar photovoltaic | l. Biofuels |

Q. No. 2 Write short note on following – (Each question carries 3 marks) (any 5) (15)

- | | |
|---|----------------------|
| a. Ferrimagnetism | e. Solar Energy |
| b. X-ray diffraction | f. Meissner effect |
| c. Intrinsic and extrinsic semiconductors | g. Geothermal energy |
| d. Type I and Type II superconductors | |

Q. No. 3 Explain in details- (Each question carries 1 marks) (any 5) (25)

- Bardeen, Cooper and Schrieffer (BCS) theory
- Hall effect for n- and p-type semiconductors?
- Energy and its types?
- Relation between interplaner distance and miller indices?
- Band theory of solids.
- Energy band diagram for conductor, semiconductor and insulators.
- Applications of ultrasonics.