



V P & R P T P SCIENCE COLLEGE-VALLABH VIDYANAGAR

B. Sc. SEMESTER VI

PHYSICS

US06CPHY02

[Atomic -Molecular Physics, Energy Science and Earth Science]

Tuesday, 07-03-2017

Time: 11:00A.M. TO 12:30 P.M.

[Maximum marks: 25

Instructions: - i. Attempt all questions.

ii. Figure on right hand side indicates full marks of that question.

Q - 1. Answer the following multiple choice questions. (03)

1. The Alkaline Earth contains _____ valence electrons outside the closed shell or sub shell.
(a) One (b) Two
(c) Three (d) Four
2. The homonuclear diatomic molecules do not exhibit _____.
(a) vibrational-rotational spectra (b) electronic
(c) pure rotational spectra (d) translational
3. Two plates slide apart from each other is known as _____.
(a) Transform boundaries (b) Divergent boundaries
(c) Convergent boundaries (d) Grain boundaries

Q-2. Answer the following short questions (Attempt any two). (04)

1. Write Bohr's two assumptions to explain the spectrum of Hydrogen.
2. Enlist the differences of Raman Spectra and Fluorescence spectra
3. What is mantle? Discuss their influence in brief.

Q-3 Explain Bohr's theory to explain the spectrum of Hydrogen (06)
OR

Q-3 Discuss - Frank - Hertz experiment (06)

Q-4 Explain the Born-Oppenheimer approximation. (06)
OR

Q-4 Discuss Observation of Raman Spectra in detail. (06)

Q-5 Discuss how to determine the density of the earth and mass of the Sun. (06)
OR

Q-5 Explain modern applications of Seismology. (06)

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