



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – CHEMISTRY

THIRD SEMESTER – APRIL 2017

PH 3202- PHYSICS FOR CHEMISTRY - II

Date: 04-05-2017
09:00-12:00

Dept. No.

Max. : 100 Marks

PART A

Answer **ALL** questions:

10 x 2 = 20 marks

1. Convert the Decimal number 74 into Binary and Hexadecimal number.
2. What is known as Decade counter?
3. State Pauli's exclusion principle.
4. Give any four applications of X-rays.
5. What is known as half-life period of a nucleus?
6. Define nuclear fission.
7. Distinguish transverse and longitudinal waves.
8. What is the unit of measurement of noise? Define it.
9. State Heisenberg's uncertainty principle.
10. What do you understand from normalization condition?

PART B

Answer any **FOUR** questions:

4 x 7.5 = 30 marks

11. Draw the schematic diagram of AND, OR, NOT and NAND gates. Give their truth tables.
12. Explain the production process of X-rays with suitable diagram.
13. Discuss B.E/A verses A curve for nuclear energy.
14. Derive Newton's formula for velocity of sound and discuss the Laplace correction.
15. Explain the Davisson and Germer experiment.

PART C

Answer any **FOUR** questions:

4 x 12.5 = 50 marks

16. Explain Half adder and full adder with suitable logical diagram.
17. State the Laws of photoelectric effect and Derive Einstein's photo electric equation. (6+6.5)
18. Discuss the liquid drop model of nucleus.
19. Derive Sabine's law for reverberation time.
20. Explain Black body radiation spectra using Plank's theory.

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