

TAMIL NADU OPEN UNIVERSITY Chennai-15. B.Sc Physics – Third Year

SPOT ASSIGNMENT

Course
ATOMIC AND SOLID STATE PHYSICS

Course Code BPHY-31 Admission Year AY-2017-18

Time: 1 Hour

Total Marks: 25

Answer all questions.

- 1. Derive an expression for LS and JJ coupling
- 2. Explain the Experimental determination of Anomalous Zeeman Effect.
- 3. What is Compton effect? Derive an expression for Compton shift.
- 4. Derive an expression for Einstein's Photo electric equation.
- 5. Derive an expression for packing factor of HCP structure.



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Course WAVE MECHANICS AND NUCLEAR PHYSICS Course Code BPHY-32 Admission Year AY-2017-18

Time: 1 Hour

Answer all questions.

- 1. State and explain Heisenberg's Uncertainty Principle.
- 2. Derive the expression for Normalized wave function.
- 3. Explain the shell model in detail.
- 4. Describe the construction and working of Linear accelerator.
- 5. Explain the term thermo nuclear reaction with example.

Total Marks: 25



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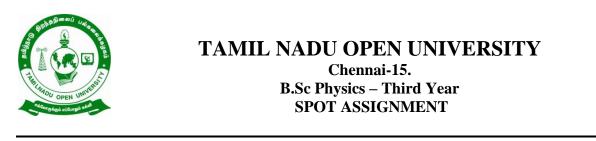
Course	Course Code	Admission Year
BASIC AND DIGITAL ELECTRONICS	BPHY-33	AY-2017-18

Time: 1 Hour

Total Marks: 25

Answer all questions.

- 1. State and prove Norton and Thevenin's theorem.
- 2. With the help of a circuit, diagram and waveforms explain the working of a capacitive filter.
- 3. Explain the OP- Amp as a adder and subtractor.
- 4. Write the truth table of an OR function and realize an OR
- 5. What is J-K flip flop and how it is converted from S-R flip flop?
- 6. Explain the block diagram of 8085 microprocessor



Course	Course Code	Admission Year
MATHEMATICAL PHYSICS	BPHY-34	AY-2017-18

Time: 1 Hour

Answer all questions.

Total Marks: 25

- 1. State and Derive the D'Alembert's Principle.
- 2. Derive the Expresion for Hamilton's canonical equations of motion.
- 3. Derive the relation between beta and gamma function
- 4. State and prove Cayley Hamilton theorem.
- 5. State and prove Gauss's Divergence theorem.