TAMIL NADU OPEN UNIVERSITY

Chennai-15.

B.Sc Physics – Third Year

SPOT ASSIGNMENT

Course	Course Code	Admission Year
ATOMIC AND SOLID STATE PHYSICS	**BPHY-31**	**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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B.Sc Physics – Third Year

SPOT ASSIGNMENT

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

Time: 1 Hour **Total Marks: 25**

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.

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SPOT ASSIGNMENT

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

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B.Sc Physics – Third Year

SPOT ASSIGNMENT

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

Time: 1 Hour **Total Marks: 25**

Answer all questions.

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.