Dr. B.R. Ambedkar Open University
M.Sc II year - PHYSICS (2017-18)
Course V: Nuclear Physics & Analytical Techniques

ASSIGNMENT-I

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. What are Fermi-Kurie plots? Discuss their importance.
2. Discuss about the nature of the nuclear forces.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. Explain the theory of Compton effect.
2. Derive four-factor formula and discuss the importance of the same.

Dr. B.R. Ambedkar Open University
M.Sc II year - PHYSICS (2017-18)
Course V: Nuclear Physics & Analytical Techniques

ASSIGNMENT-II

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. Discuss the principle of electron microscopy
2. Explain the NMR spectra of pure methyl alcoholat low temperatures.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. What is Mossbauer effect? Give the theory of Mossbauer effect.
2. Derive Bloch equations and explain their significance.

Dr. B.R. Ambedkar Open University
M.Sc II year - PHYSICS (2017-18)
Course VI: Electromagnetic Theory and Spectroscopy
ASSIGNMENT-I

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. Define and explain magnetic susceptibility and permeability of materials.
2. Explain the effect of relativistic correction on the spectral lines.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. Using Lienard – Wiechert potentials obtain expressions for fields of an accelerated charge.
2. Describe the experimental arrangements for studying the Zeeman effect. Discuss the Zeeman pattern of Sodium D-lines. What is anomalous Zeeman effect?

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M.Sc II year - PHYSICS (2017-18)
Course VI: Electromagnetic Theory and Spectroscopy
ASSIGNMENT-II

Maximum Marks: 15
Minimum marks: 06

Section-A **(**Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. What is Born-Oppenheimer approximation? Discuss its significance in the molecular spectra.
2. What is the principle of IR spectroscopy?

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. Discuss Frank condon principle
2. Explain Raman Scattering with the help of an energy level diagram.

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M.Sc II year - PHYSICS (2017-18)
Course VII: Memory Devices and Microprocessors
ASSIGNMENT-I

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. What is Tri-State Logic? Explain
2. What is EEPROM? Discuss in detail.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. What are the various status flags in 8085 microprocessor? Explain the function of the flags.
2. Discuss various types of addressing modes of Intel 8085 with suitable examples.

Dr. B.R. Ambedkar Open University
M.Sc II year - PHYSICS (2017-18)
Course VII: Memory Devices and Microprocessors
ASSIGNMENT-II

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. What is hand shaking? Explain
2. Explain pipeline concept.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. Give the block diagram of 8255 and explain the function of each block.
2. Explain the Architecture of 80286 with a block diagram.

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M.Sc II year - PHYSICS (2017-18)

Course VIII: Microwave Devices and Communication Systems

ASSIGNMENT-I

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. What is phase velocity? Discuss the reflection in a parallel plane wave guide.
2. Explain parametric up and down converter.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. Discuss about the scattering matrix of a two-port junction.
2. Explain the operating principle and construction of IMPATT diode and its major disadvantages

Dr. B.R. Ambedkar Open University
M.Sc II year - PHYSICS (2017-18)
Course VIII: Microwave Devices and Communication Systems

ASSIGNMENT-II

Maximum Marks: 15
Minimum marks: 06

Section-A (Marks: 05)

I. Answer any one of the following questions in about 10 lines

1. Write down the expression for output power and efficiency?
2. Describe the operation of a parabolic reflector.

Section-B (Marks: 10)

II. Answer any one of the following questions in about 30 lines

1. What is modulation? Explain briefly usefulness of modulation.
2. Derive the Radar range equation