

(041140302/446131B)

M.Sc. DEGREE EXAMINATION, APRIL 2018

FOURTH SEMESTER

Branch – Physics

Paper III — ADVANCES IN PHYSICS

Time : 3 Hours

Max. Marks : 70

PART – A

Answer any FOUR questions. Each question carries 5 marks.

Each answer should not exceed 250 words.

(Marks : 4×5 marks = 20 marks)

1. Explain the Sol-Gel process.
2. Write note on thin films.
3. Briefly show MEM structure and explain.
4. What are the mass flow sensors?
5. Write the I/O port programming.
6. Explain the Logic instructions and programs.
7. Describe the concepts and systems of remote sensing.
8. Find out mineral resources through remote sensing.

PART – B

Answer ALL questions. Each question carries 12.5 marks.

(Marks : 4×12.5 marks = 50 marks)

9. (a) Describe the chemical vapour deposition for two dimensional nanostructures formation.

Or

- (b) Discuss the Molecular beam epitaxy for synthesis of thin films.

10. (a) Describe the Accelerometers and inertial sensors.

Or

- (b) Discuss the catalysis by gold nanoparticles and photonic crystals.

11. (a) Describe the 8051 Addressing modes, arithmetic instructions and programs.

Or

- (b) Discuss the 8051 serial communication.

[P.T.O]

12. (a) Distinguish between electromagnetic radiation and electromagnetic spectrum.
(b) Write note on image sensing platform.

Or

- (c) Explain the advantages of remote sensing.
(d) Briefly write the application of remote sensing.
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