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BR-2524

M. Sc. (Second Semester) Examination,

April-May 2018

PHYSICS

Paper : Fourth

(Electronic Devices)

Time Allowed : Three hours

Maximum Marks : 40

Note : Attempt questions of all two sections as directed. Distribution of marks is given with sections.

Section - A

(Short Answer Type Questions) 5x3=15

Note : Attempt all five questions. Each question carries 03 marks.

1. Discuss the high frequency limits.

Or

What are Avalanche transit time devices..

2. Differentiate between optical and Ferroelectrics memories.

Or

Draw and make truth table for NAND gates and give its one application.

3. Discuss the types of multivibrator.

Or

What are comporators.

4. Give some application of switching regulator.

Or

Discuss the function of fixed regulators.

5. Discuss the microwave devices. ,

Or

Write the Demorgan's theorems and prove it using truth table.

Section - B

(Long Answer Type Questions) 5x5=25

Note : Attempt all five questions. Each question carries 5 marks.

6. Explain the construction and working and I-V character ristics curves under different conditions of MOSFET.

Or

Discuss the structure and working Imatt diodes and parametric devices.

7. Describe the static and dynamic random access memories SRAM and DRAM.

Or

Explain the structure and working at 16: 1 multiplexer.

8. Explain principle and working of phase shift oscillator with the help of diagram.

Or

Discuss principle and working of wein-bridge oscillator with the help of block diagram.

9. Explain the construction and working at monostable multivibrator.

Or

Discuss the working of square wave and triangle wave generators.

10. Write a brief note on (any two):

(i) Tunnel diode (ii) Charge coupled devices (CCD) (iii) LC-Tunnable oscillators (iv) Adjustable voltage regulators

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