Printed Pages : 1 Roll No. EEC066

B.TECH.

THEORY EXAMINATION (SEM–VIII) 2016-17

MICROWAVE & RADAR

Time : 3 Hours *Max. Marks : 100*

Note : *Be precise in your answer. In case of numerical problem assume data wherever not provided.*

SECTION – A

1. Explain the following: **10 x 2 = 20**

(a) Define directional coupler.

(b) What is quality factor in microwave resonator?

(c) Define VSWR in microwave .

(d) Define impedance attenuator.

(e) Define term slotted lines.

(f) What is Hybrid ring in microwave?

(g) What are the name of microwave semiconductor diode?

(h) What is mean by radar?

(i) What is radar clutter?

(j) What is noise figure in radar?

SECTION – B

2. Attempt any five parts of the following questions: **5 x 10 = 50**

(a) Explain the construction and working of Directional Coupler

(b) Derive the radar range equation.

(c) Explain limitation of conventional active devices at microwave frequency.

(d) Derive the solution of wave equation in rectangular co ordinates for TE degenerate mode.

(e) Explain the gunn diode in detail

(f) Explain the varactor diode in detail.

(g) Explain the moving target radar with its application.

(h) What are Avalanche transient time devices?

SECTION – C

Attempt any two parts of the following questions: **2 x 15 = 30**

3 Explain the Impatt and Trapatt diode in detail.

4 **Write the short note of following**

(i) TWT

(ii) Klystron

5 Explain the E-plane, H plane tree in microwave component.