

ROLL NO

2008 VINAYAKA MISSION'S UNIVERSITY
B.E DEGREE EXAMINATION
MICROWAVE ENGINEERING
B.E ELECTRICAL AND ELECTRONICS ENGINEERING

JULAY 2008

TIME : 3 HOUR
MARK : 75

ANSWER ANY ALL QUESTIONS SECTION –A 10 X 2 = 20

1. List the properties of 'S' parameter.
2. State the relation between Y parameter and ABCD parameter.
3. What are coupling loops? Where it is used?
4. Draw a) E plane tee b) H plane tee.
5. Why do you mean by bunching and de bunching in reflex klystron?
6. Draw the equivalent circuit of reflex klystron.
7. Define conversion loss in dB.
8. What is harmonic mixer?
9. What are the applications of IMPATT diodes?
10. What is VSWR? How it is measured in microwave frequency.

ANSWER ANY FIVE QUESTIONS SECTION – B 5 X 5 = 25

Explain the experimental set up for measurement of antenna gain by two different methods.

11. Differentiate band width and beam width of antenna.
12. Prove that impedance and admittance matrices are symmetrical for a reciprocal junction.
13. Differentiate bandwidth and beam width of antenna.
14. Write a short note o Circulators.
15. Explain all the properties of 'S' parameters.
16. Explain the different methods of antenna gain measurements.
17. Explain the impedance measurement by slotted line method and reactive discontinuity method.

ANSWER ANY TWO QUESTIONS: SECTION – C 2 X 15 = 30

18. Explain the frequency measurement using wave meter method, down conversion method.
19. Derive all necessary relation ships between S, Y, Z and ABCD parameters.
20. Explain the operation of reflex klystron. Derive suitable expressions for power diodes.