



বিদ্যাসাগর বিশ্ববিদ্যালয়

VIDYASAGAR UNIVERSITY

M.Sc. Examinations 2020
Semester IV
Subject: ELECTRONICS
Paper: ELC - 496
(Project Work)

Full Marks: 50

Time: 4hrs.

Candidates are required to give their answers in their own words as far as practicable.

Answer any one of the following:

1. Carry out project work on “Design and development of planar antennas”.
2. Carry out project work on “Design and development of wearable antennas”.
3. Carry out project work on “Design and development of antennas for application in Body Area Network (BAN)”.
4. Carry out project work on “Design and development of antennas on diurnal cloths”.
5. Discuss how you can calculate the breakdown voltage of a MESFET having exponential channel doping.
6. Discuss how you can calculate the breakdown voltage of a MESFET having Gaussian channel doping.
7. Discuss various doping mechanism of a semiconductor Channel.
8. Discuss how you can calculate the Pinch off voltage and Saturation drain voltage of a MESFET
9. Define antenna. What are the different basic characteristics of the antenna? What is the radiation mechanism of the antenna? Explain it with proper diagram.
10. Write down advantages, disadvantages and applications of microstrip antenna. What are the different feed mechanisms used for microstrip antenna? Briefly discuss about them.
11. How can you define monopole antenna? What are the advantages of monopole antenna? What are the basic characteristics of monopole antenna? What are the different techniques used to get dual-band characteristic of a monopole antenna?
12. What is the radiation mechanism of microstrip antenna? Design a rectangular microstrip antenna using a substrate (RT/duroid 5880) with dielectric constant of 2.2, $h=0.1588$ cm so as to resonate at 10 GHz.