

B.Sc. (H) ELECTRONICS / II Sem.

A

Paper— ELHP – 206

(Electronics Practical – IV)

(Admissions of 2010 and onwards)

Time : 1 hour

Maximum Marks : 25

(Write your Roll No. on the top immediately on receipt of this question paper.)

Attempt 09 questions from Section A and 08 from Section B.

Section A questions carry 1 mark each, while Section B questions carry 2 marks each.

SECTION A

1. Write the colour code for the following resistances

- (i) 4.7 k Ω (ii) 330 Ω

2. A circuit consist of a capacitor of 100pf is connected in series with a coil of resistance of 5 Ω and inductance of 100 μ H. Calculate

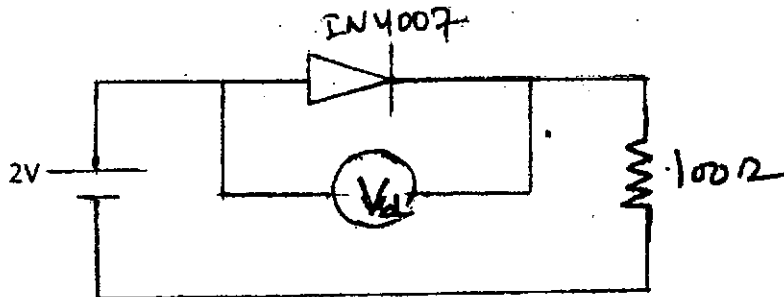
(i) Resonance frequency (f_0)

(ii) Quality Factor (Q)

3. Is it possible to identify the terminal of diode by multimeter? If yes, how?

4. An A.C. wave has a time period of 20 millisecond. Calculate the frequency.

5. How much will be voltage drop (V_d) across silicon pn junction diode in following circuit



6. Draw the Current-Voltage (I-V) characteristics of a silicon pn junction.

7. What is the difference between active and passive components?
8. Why transistor is commonly used in CE configuration?
9. What are the limitations of circuit simulation?
10. List the four quantities that can be measured in the laboratory with the help of Multimeter.
11. Why transistor is known as 'transistor'?
12. Plot the input and output characteristics of common emitter configuration of transistor.
13. JFET is a current controlled device or voltage controlled device, Comment.
14. Draw the symbol of npn transistor and n- channel JFET.
15. What is the pinch off voltage?

SECTION B

1. Draw the characteristics of UJT and explain negative resistance region.
2. Draw the input and output characteristics of common gate and common source JFET. What is transconductance factor and how it is determined graphically?
3. Intrinsic stand-off ratio of UJT is always less than unity. Why?
4. Once SCR is switched on, how can one switch it off?
5. Write the four hybrid parameters of an ideal transistor connected in CE configuration.
6. A voltage given by $v(t)=100 \sin \omega t$ is applied across a pure resistor of 20Ω . Find the Current, Power $P(t)$ and Average Power
7. Explain various types of analysis that can be carried out by circuit simulation.
8. Can we measure Built in potential of diode by voltmeter? Explain.
9. Can we study effect of temperature and noise in simulation? If Yes, How? If No, Why?
10. How one can find out input impedance, output impedance of a network using simulation?