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SUBJECT CODE NO:- H-436
FACULTY OF SCIENCE AND TECHNOLOGY
S.E. (EE/EEE/EEP) (Sem-I)
Elective - I: Electronics Devices & Circuits
[Revised]

[Time : Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

- N.B
1. Q.No.1 & 6 are compulsory.
 2. Solve any two questions from Q.No.2 to Q.No.5 and Q.No.7 to Q.No.10.
 3. Assume suitable data if required.

Section A

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|-----|---|----------|
| Q.1 | Solve any five: | 10 |
| | <ol style="list-style-type: none"> 1) Define rectifier. Mention the types. 2) Distinguish between a cycle, time periods & frequency. 3) State the principle of operation of an LCD 4) List some applications of Zener diode 5) What is voltage regulator? List some types. 6) List some applications of JFETS. 7) Define diffusion capacitance of diode. | |
| Q.2 | <ol style="list-style-type: none"> a) Explain application of MOSFET as amplifier & switch? b) Explain DC analysis of differential amplifier. | 08
07 |
| Q.3 | <ol style="list-style-type: none"> a) Explain constant current bias in detail. b) What are different configuration of differential amplifier? Explain any one in detail. | 08
07 |
| Q.4 | <ol style="list-style-type: none"> a) What are various parameters of op-amp? Explain in detail. b) Explain diode with construction, symbol, V-I characteristics & specifications? | 08
07 |
| Q.5 | Write short notes on the following (any three) | 15 |
| | <ol style="list-style-type: none"> 1) Comparison between BJT, FET and MOSFET 2) Explain working of JFET 3) Explain half wave and full wave rectifier 4) Op-amp & its features | |

Section B

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|-----|---|----|
| Q.6 | Solve any five: | 10 |
| | <ol style="list-style-type: none"> 1) What is a multivibrator? List the different types of multivibrator. 2) Difference between clippers & clampers 3) List the application of high pass RC circuits 4) Define pulse & pulse circuits 5) When two signals V_1 & V_2 are connected to the two inputs of a difference amplifier, define a difference signal V_d & common-mode signal V_c. 6) What are the applications of AMVs. | |

7) Enlist types of negative feed-backs.

- Q.7 a) Explain the high frequency response of FET amplifier. 08
- b) Determine the period & frequency of oscillator for an astable multi-vibrator with component values.
 $R_1 = 2k\Omega, R_2 = 20k\Omega, C_1 = 0.01\mu F, C_2 = 0.05\mu F$ 07
- Q.8 a) Explain with neat circuit diagram, explain the operation of RC phase shift oscillator and its advantages. 08
- b) Explain class-B complementary symmetry amplifier. 07
- Q.9 a) What is video amplifier? Explain 08
- b) Explain RC control blanking oscillator with neat diagram. 07
- Q.10 Write short notes on the following 15
- 1) Class AB Amplifier
 - 2) Define
 - a) Feedback
 - b) Positive feedback
 - c) Negative feedback
 - 3) Emitter follower at high frequency