Total No. of printed pages = 6

RETEST EXAMINATION – 2019

Semester : 4th (Old)

Subject Code : Et-405

ANALOG ELECTRONIC – II

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks for the questions.

Instructions :

1. *All* questions of PART – A are compulsory.
2. Answer any *five* questions from PART – B.

PART – A

Marks – 25

1. Fill in the blanks : 1×10=10

   (a) The depletion region of a JFET _____ with increase in gate reverse bias.

   (b) A relay is an _____ type switch.

[Turn over

(c) The output voltage of a 7805 IC voltage regulator is _____ volts.

(d) The UJT possess _____ resistance characteristic.

(e) Monostable multivibrator is also called _____.

(f) A bistable multivibrator has _____ states.

(g) Input impedance of an ideal OP-Amp is _____.

(h) A _____ cannot be febricated on an IC.

(i) Input impedence of an FET _____ than BJT.

(j) The full form of CMRR is _____.

2. Write the true or false : 1×10=10

(a) JFET is an unipolar device.

(b) Input impedance of JFET is less than MOSFET.

(c) Transistors used in multivibrator, operate either in saturation or in cut off region.

(d) A astable multivibrator always generate square wave.

(e) Op-Amp can not be used as an Integrator.

(f) Clamping circuit can be used to remove certain portion of a input waveform.

(g) UJT has negative resistance region.

(h) In ideal Op-Amp. the output impedance is infinity.

(i) Astable multivibrator has two stable states.

(j) Zener diode can be used as voltage regulator.

3. Choose the correct answer : 1×5=5

(i) A BJT contains

(a) Four p-n junction

(b) Three p-n junction

(c) Two p-n junction

(d) One p-n junction

(ii) A circuit that generates squar-wave is called

(a) An oscillator

(b) A differentiator

(c) A multivibrator

(d) Amplifier

(iii) A relay is basically a

(a) mechanical switch

(b) electro mechanical switch

(c) electronic switch

(d) tumbler switch

(iv) The negative feedback in an amplifier

(a) Reduces the voltage gain

(b) Increase the voltage gain

(c) Does not affect the voltage gain

(v) A UJT has R_{BB} = 10 KΩ and R_{B2} = 4KΩ its intrinsic stand – off ratio is

(a) 0.6 (b) 0.4

(C) 2.5 (d) 5/3.

PART – B

Marks – 45

4. Name different types of switches. What are the advantages of electronic switches ? Explain how transistor can be used as a switch. 1+3+5=9

5. Classify Field Effect Transistor and compare its merits and demerits with BJT. Also draw the symbol of N–channel JFET, E-only MOSFET and DE-MOSFET. 2+4+3=9

6. (a) What is UJT ? Draw its emitter characteristic curve. 1+2=3

(b) Explain with a proper diagram UJT as relaxation oscillator. 6

7. (a) What is multivibrator ? Name different types of multivibrator and differentiate. 3

(b) Explain with a circuit diagram the working of a Astable multivibrator. 6

8. What is clipping circuit ? Draw and explain the different types of clipping circuits. 1+8=9

9. (a) What are the ideal characteristic of operational amplifier ? 3

(b) Explain with a circuit diagram the Op-Amp as 3+3=6

(i) Adder

(ii) Subtractor.

10. Write short notes on *any two* : 4½×2=9

(a) CMRR.

(b) Sweep Generator.

(c) DC voltage regulator.

(d) Differential Amplifier.

(e) Clamping Circuits.