

B.Sc. Semester - 5 (Remedial) (CBCS) Examination
Feb/Mar. -2021 (OLD COURSE)
SOLID STATE ELECTRONICS (CORE)

Time: 1:30 Hours**Marks: 42****Instructions:**

1. Figures to the right indicate marks.
2. There are five questions in the question paper.
3. Answer any three of the following questions.

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1. (a) Answer any one question: 07
- (1) Explain transformer coupled amplifier with neat circuit diagram.
 - (2) Explain push-pull amplifier with neat circuit diagram.
- (b) Attempt any one: 04
- (1) Give the comparison of different type of coupling.
 - (2) Explain thermal runaway.
- (c) Attempt any three: 03
- (1) 1 bel = _____ db.
 - (2) _____ coupling amplifier provides impedance matching facility.
 - (3) _____ coupling has poor frequency response.
 - (4) The metal sheet serves to dissipate the additional heat from the power transistor is known as _____.
 - (5) If the collector current flows only during the positive half cycle of the input signal it is called _____ amplifier.
2. (a) Answer any one question: 07
- (1) Explain astable multivibrator with neat circuit diagram.
 - (2) Explain biased clippers.
- (b) Attempt any one: 04
- (1) Explain how a transistor works as switch.
 - (2) Describe the applications of clipping circuits.
- (c) Attempt any three: 03
- (1) A circuit that can turn ON and OFF power to an electrical circuit is known as _____.
 - (2) A switch operated mechanically to turn ON and OFF in an electrical circuit is known as _____ switch.
 - (3) A multivibrator that continuously changes its states without any external triggering is known as _____ multivibrator.
 - (4) When the rectangular wave is applied at the input to an integrating circuit, the output will be a _____ waves.
 - (5) A positive clipper is a circuit that removes whole _____ half cycle of the applied input voltage.
3. (a) Answer any one question: 07
- (1) Explain Zener diode as a voltage regulator.
 - (2) Explain how an Op-Amp works as inverting amplifier.
- (b) Attempt any one: 04
- (1) If the dc output voltage is 400V with no-load attached to power supply but decreases to 300V at full-load, find the percentage voltage regulation.
 - (2) Write the advantages of ICs.

- (c) **Attempt any three:** 03
- (1) A Zener diode utilises _____ characteristic for voltage regulation.
 - (2) In an unregulated power supply, the dc output voltage decreases as the load current _____.
 - (3) The ideal open loop gain of an Op-Amp is _____.
 - (4) The ideal input resistance of an Op-Amp is _____.
 - (5) The Op-Amp inverting amplifier is also known as _____.
4. (a) **Answer any one question:** 07
- (1) Explain construction and working of LVDT.
 - (2) Describe the carbon microphone.
- (b) **Attempt any one:** 04
- (1) Explain strain gauge.
 - (2) Explain capacitive pressure transducer.
- (c) **Attempt any three:** 03
- (1) LVDT has _____ primary but two secondary coils.
 - (2) Strain gauge is _____ transducer.
 - (3) Full form of LVDT is _____.
 - (4) _____ is the short form for "Thermal Resistor".
 - (5) Photovoltaic devices convert light energy directly into _____ energy.
5. (a) **Answer any one question:** 07
- (1) Explain the CRO with block diagram.
 - (2) Write a note on D-flip flop.
- (b) **Attempt any one:** 04
- (1) Write applications of CRO.
 - (2) Write applications of multiplexer and demultiplexer.
- (c) **Attempt any three:** 03
- (1) Full form of CRT is _____.
 - (2) Full form of VTVM is _____.
 - (3) A flip-flop is a _____ type of multivibrator.
 - (4) Flip-flop can be used as a _____ device in computer.
 - (5) A circuit with many inputs but only one output is called _____.
