



RAN - 1903000203020093



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S. Y. B. Sc. (Electronics) (Sem. - III) Examination

March - 2023

Electronics : Paper - V

Linear Power Electronics

સૂચના : / Instructions

(1)

નીચે દર્શાવેલ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fill up strictly the details of signs on your answer book

Name of the Examination:

S. Y. B. Sc. (Electronics) (Sem. - III)

Name of the Subject :

Electronics : Paper - V Linear Power Electronics

Subject Code No.: **1903000203020093**

Seat No.:

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Student's Signature

(2) All questions are compulsory.

***O.M.R. Sheet ભરવા અંગેની અગત્યની સૂચનાઓ આપેલ
O.M.R. Sheetની પાછળ છાપેલ છે.***

***Important instructions to fillup O.M.R. Sheet
are given on back side of the provided O.M.R. Sheet.***

- Q. 1.** Switching regulators are series type regulators, which has _____ power dissipation and _____ efficiency.
- A) Increased, increased B) Increased, reduced
C) Reduced, reduced D) Reduced, increased
- Q. 2.** The output voltage of a regulated power supply is affected by which of the following factors
- A) Input voltage B) Load current
C) Temperature D) All the above
- Q. 3.** A fixed voltage regulator can be a _____.
- A) Positive voltage regulator
B) Negative voltage regulator
C) Positive or negative voltage regulator
D) None of the above
- Q. 4.** A diode for which you can change the reverse bias, and thus vary the capacitance is called
- A) Varactor diode B) Tunnel diode
C) Zener diode D) Switching diode
- Q. 5.** In a power supply diagram which block indicated the smooth dc output?
- A) Filter B) Transformer
C) Regulator D) None of the above
- Q. 6.** In an unregulated power supply, if input a.c. voltage increases, the output voltage
- A) Increases B) Decreases
C) Remains the same D) None of the above

- Q. 13.** Which of the following is considered as three-pin voltage regulator ICs?
- A) Voltage regulators which are adjustable
 - B) Fixed voltage regulator
 - C) Both A and B
 - D) None
- Q. 14.** Voltage regulators require
- A) Only line regulation
 - B) Only load regulation
 - C) A constant load
 - D) Load and line regulation
- Q. 15.** What type of regulators offer inherent short-circuits protection?
- A) Shunt regulators
 - B) Series regulators
 - C) Three-terminal regulators
 - D) Switching regulators
- Q. 16.** Voltage regulators keep a constant _____ output voltage when the input or load varies within limits.
- A) DC
 - B) AC
 - C) Ripple
 - D) None
- Q. 17.** The chemical energy in a battery or cell
- A) Is a form of kinetic energy
 - B) Cannot be replenished once it is gone
 - C) Changes to kinetic energy when the cell is used
 - D) Is caused by electric current
- Q. 18.** In a power supply diagram, which block indicates a pulsating dc output?
- A) Transformer
 - B) Filter
 - C) Rectifier
 - D) Regulator

- Q. 25.** Thermal shutdown occurs in an IC regulator if
- A) Power dissipation is too high
 - B) Internal temperature is too high
 - C) Current through the device is too high
 - D) None
- Q. 26.** Testing a good diode with an ohmmeter should indicate
- A) High resistance when forward or reverse biased
 - B) Low resistance when forward or reverse biased
 - C) High resistance when reverse biased and low resistance when forward biased
 - D) High resistance when forward biased and low resistance when reverse biased
- Q. 27.** The 79XX series of voltage regulators produces an output voltage that is
- A) Negative
 - B) Positive
 - C) Either Positive or negative
 - D) Unregulated
- Q. 28.** A shunt regulator is inefficient because
- A) It wastes power
 - B) It uses a series resistor and a shunt transistor
 - C) The ratio of output to input power is low
 - D) All of the above
- Q. 29.** A series regulator is more efficient than a shunt regulator because
- A) It has a series resistor
 - B) It can boost the voltage
 - C) The pass transistor replaces the series resistor
 - D) It switches the pass transistor on and off

- Q. 30.** Why is heat produced in a diode?
- A) Due to current passing through the diode
 - B) Due to voltage across the diode
 - C) Due to the power rating of the diode
 - D) Due to the PN junction of the diode
- Q. 31.** Which of the following circuits would require the least amount of filtering?
- A) A half-wave rectifier
 - B) A full-wave rectifier
 - C) A bridge rectifier
 - D) A full-wave rectifier and a bridge rectifier
- Q. 32.** The regulator with the highest efficiency is the
- A) Shunt regulator
 - B) Series regulator
 - C) Switching regulator
 - D) Dc-to-dc converter
- Q. 33.** Several cells in the series form a
- A) Power supply
 - B) Battery
 - C) Thermocouple
 - D) Charger
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SPACE FOR ROUGH WORK