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RA-0717

Second Year B. Sc. Examination

March / April – 2010

Electronics : Paper - V

Time : 2 Hours] [Total Marks : 70

Instruction :

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

Name of the Examination :
☛ S. Y. B. Sc.

Name of the Subject :
☛ Electronics : Paper - 5

☛ Subject Code No. : 0 7 1 7 ☛ Section No. (1, 2,.....) : Nil

Seat No. :

Student's Signature

1 Write very short answers :

(i) Draw the block diagram of a power supply and label each block.

(ii) What is need for regulation?

(iii) What component values are measured by an AC bridge?

(iv) Explain the electrochemical action in battery.

(v) Compare relative and absolute error.

(vi) Discuss advantages and limitations of SMPS.

(vii) What is a solar cell?

2 (a) Discuss the full wave bridge rectifier and explain the action of C filter. Show that the DC output voltage in C filter is dependent on the current drawn from the circuit. **10**

(b) Show how the ripple factor in c filters increases with load current. **4**

OR

2 (a) Discuss the zener regulator. **6**

(b) Draw a neat block diagram of feedback regulator and explain the process of regulation in this regulator. **8**

3 (a) Discuss the application of fixed three terminal regulator. **8**

(b) Design a dual regulated power supply using the three terminal fixed regulator giving 12-0-12 volts output voltage. **6**

OR

3	(a)	What are converters? Discuss the forward type converter and fly-back converter.	**10**
	(b)	Explain how would you make selection of transformer for SMPS.	**4**
4	(a)	What are rechargeable batteries? Discuss the Ni-Cd types of rechargeable batteries?	**10**
	(b)	Discuss the solar cells as a source of power.	**4**

OR

4	(a)	Discuss the Kelvin Bridge for measurement of resistance.	**8**
	(b)	Discuss any **two** transducers you know.	**6**

5 Write short notes : (any **two**) **14**

(i) Types of errors

(ii) UPS

(iii) Adjustable regulator

(iv) Block diagram of a power supply

(v) Battery charger.