* D M M - 3 0 6 1 *

DMM-3061

Second Year B. Sc. (Sem. IV) Examination

March / April - 2016

Electronics : Paper - III

Time : Hours] [Total Marks : **50**

Instructions :

(1)

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

Name of the Examination :

☛ **SECOND YEAR B. SC. (SEM. 4)**

Name of the Subject :

☛ **ELECTRONICS : PAPER - 3**

☛ Subject Code No. : **3 0 6 1** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Q. 1 is compulsory.
(3) Figures at extreme right indicate full marks.
(4) Draw figures/diagrams to support your answer.
(5) Assume data, if required.

1 Answer in Brief : **8**

(A) Classify the oscillator
(B) What do you mean by harmonic distortion in amplifier?
(C) What is tuned amplifier?
(D) What is cross over distortion?

2 (A) Explain circuit and working of phase shift Oscillator **8**

(B) What are the basic conditions for the oscillation ? **3**

(C) Colpitt's oscillator if $L = 120\mu H$ $C_1 = 300pF$ $C_2 = 1200pF$. **3**
Find the frequency of oscillation

OR

2 (A) Explain circuit and working of Bistable multivibrator **8**

(B) Explain general concept of transistor as switch **3**

(C) In Astable multivibrator $R_1 = R_2 = 10K\Omega$ $C_1 = C_2 = 0.01\mu F$ **3**
and $RL_1 = RL_2 = 1K\Omega$ find the minimum value of transistor β.

3	(A)	Explain Class B push pull amplifier with figure.	**8**
	(B)	What are the basic differences between the voltage and power amplifier	**3**
	(C)	A Class B push pull amplifier must deliver 10 W of audio - power to the out put load if the output transformer is 80% efficient. What is the max. power drain on the power supply under optimum conditions ?	**3**

OR

3	(A)	Explain Single Input unbalanced Output Differential Amplifier with figure	**8**
	(B)	Explain the basic concept of differential amplifier in detail	**6**

4 Write Short Notes : (Any Two) **14**

(A) Wein Bridge Oscillator

(B) Astable Multivibrator

(C) Class AB Push Pull Amplifier

(D) Double Tuned Amplifier.