MODEL QUESTION PAPER

REVISION-2010 Reg. No……

SUB CODE:3053 Signature…….

THIRD SEMESTER DIPLOMA EXAMINATION INELECTRICAL & ELECTRONICS ENGINEERING, OCTOBER 2011

ELECTRONIC DEVICES AND CIRCUITS

Time :3hours Maximum marks:100

PART A

(maximum marks **10**)

I. Answer the following questions in 2 or 3 sentences: marks

1.Define the term barrier potential ?

2.Calculate I_E in a transistor for which $\beta = 50$ and $I_B = 20\mu A$?

3.Define the bandwidth in an amplifier.

4.List out two methods of amplifier coupling .

5.What is the Barkhausen criteria for oscillation? **(5x2=10)**

PART B

(Maximum marks :30)

II Answer any five questions from the following

1.Analyse the DC load line concept of a transistor.

2.Explain the working of half wave rectifier .

3.Explain the capacitor filter circuits with wave forms.

4. Explain the negative feed back with a circuit diagram.

5.Draw the monostable multivibrator circuit using IC555.

6.Name the various types of tuned oscillators.

7.Differentiate an ordinary diode and zener diode **(5x6 =30)**

PART C

(Answer any four full questions, selecting one from each unit)

UNIT I

III. a) Analyse the behavior of PN junction in forward biasing 8

b) Describe the current flow in a NPN transistor. 7

OR

IV a) Explain any one method of PN junction formation. 7

b) Analyse the common base configuration of a transistor. 8

UNIT II

V Explain the construction and working of a centre tap full wave rectifier with necessary wave forms. 15

OR

VI a) Describe the regulator circuit using 7905 IC. 7

b) Explain the working of a biased clipping circuit with wave forms. 8

UNIT III

VII a) Explain the working of a class C amplifier 8

b). Describe the various schemes of coupling of amplifiers 7

OR

VIII a) Describe the positive feed back and its applications 7

b) Explain the working of transformer coupled amplifier with a neat diagram 8

UNIT IV

IX a) Explain the working principle of an oscillator. 8

b) Describe the working of Colpitts oscillator. 7

OR

X a) Explain the operation of a crystal oscillator. 8

b) Explain the terms UTP and LTP of a Schmitt trigger. 7
