Seat No: _____

GANPAT UNIVERSITY

B.TECH SEM. III BIOMEDICAL & INSTRUMENTATION ENGINEERING

CBCS REGULAR EXAMINATION DECEMBER 2013

2BM 301: LINEAR ELECTRONICS

TIME: - 3 HOURS **TOTAL MARKS: - 70**

INSTRUCTION: - 1. Write the answer of each section in separate answer sheet.

2. Figure to the right indicates full marks.

3. Assume suitable data if necessary.

SECTION-I

Que-1

(a) Define: 6
Electronics, Amplifier, Bandwidth, Frequency response, Biasing, Oscillator

(b) What is biasing? Name the types of biasing. Explain any one type of it. 6

OR

Que-1

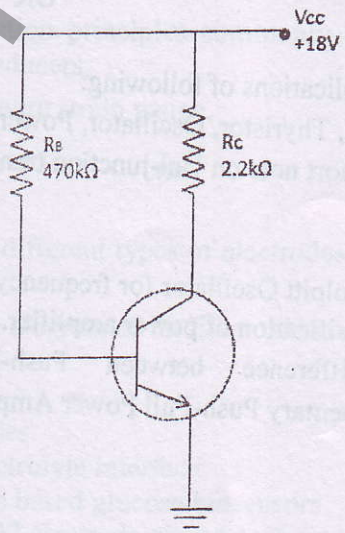
(a) Explain CB characteristics of BJT with neat diagram. 6

(b) Draw and explain Hartley oscillator. 6

Que-2

(a) Compare: FET and BJT. 2

(b) Draw load line for fixed bias circuit showing below. 9
For hFE= 50,100,200. And also give your view on stability of all.



OR

Que-2

(a) Give the difference between Zener breakdown and Avalanche breakdown. 2

(b) Design amplifier for Vcc= +24V. The signal source resistance is 600Ω and lower cutoff frequency is to be 100Hz, hfe = 100 and hie = 1kHz. 9

Que-3

(a) What is feedback? What are the types of feedback? Write merits and demerits of feedback. 4

(b) Draw ac analysis and h-parameter model for CE amplifier with bypass capacitor. 4

(c) Explain Darlington pair with necessary diagrams. 4

SECTION-II

Que-4

(a) Draw and explain Complementary Push-Pull Power Amplifier. 6

(b) Define the term feedback. What is the difference between negative feedback and positive feedback? Why we don't use positive feedback in an amplifier? 6

OR

Que-4

(a) Why voltage amplifier cannot be used as power amplifier? What are the performance parameters of power amplifier? 6

(b) Explain Class B push-pull amplifier with necessary diagram. 6

Que-5

(a) Write a short note on Silicon Control Rectifier. 6

(b) Draw and explain VI characteristics of Field Effect Transistor. 5

OR

Que-5

(a) Enlist applications of following: 6
BJT, FET, Thyristor, Oscillator, Power amplifier, UJT

(b) Write a short note on Uni-junction transistor. 5

Que-6

(a) Design Colpitt Oscillator for frequency of 10kHz. 4

(b) Give classification of power amplifier. 4

(c) Give difference between Push-Pull Power Amplifier and Complementary Push-Pull Power Amplifier. 4

----------END OF PAPER----------