

Total No. of Printed Pages: 02

SUBJECT CODE NO:- B-2120
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y. (Sem-II)
Examination November/December- 2022
Electronics Paper-IV
Amplifiers

[Time: 1:30 Hours]

[Max. Marks:50]

N.B "Please check whether you have got the right question paper"

- 1) Attempt all questions.
- 2) Illustrate your answers with proper diagram.

Q.1 1) What is D. C. load line? Draw a neat circuit diagram of Fixed Bias or Base bias Circuit. 20
 2) Explain its working to plot D.C. load line. Determine I_{CQ} , V_{CEQ} , I_{Cmax} and $V_{CE(max)}$

OR

1) Draw a neat a neat circuit diagram of Transformer coupled amplifies and explain its working. 20

Q.2 1) Draw a neat circuit diagram of Common base Amplifier explain its working and derive the equation for 20

- a) Voltage gain A_{vb}
- b) Current gain A_{ib}
- c) Power gain P.G.

OR

1) Write Short Notes on following (any four) 20

- a) Stabilization of operating point.
- b) Transconductance equivalent Ckt. of BJT.
- c) Feed Back principal
- d) Frequency response
- e) R-C coupled Amplifier
- f) Types of feed back

Q.3 Solve following MCQ with correct Answer 10

- 1) The operating point is selected in Middle of active region in order to-----
 - a) give a distortion less o/p
 - b) provide high d.c. bias
 - c) Keep the operating point stable
 - d) work. Ckt on small d.c. voltages
- 2) The voltage divider bias is used-----
 - a) to reduce base current
 - b) to reduce collectors current
 - c) to reduce D.C. Power supply
 - d) to make α point independent of β

- 3) In R-C coupled Amplifiers the coupling capacitor is used because -----
 a) it blocks a.c. b) it allows a. c. input c) it blocks d.c. d) None of the above.
- 4) The frequency response of Transformer coupled Amplifier is -----
 a) Good b) very poor c) large d) short.
- 5) The transconductance gm. is gm=-----
 a) $\frac{I_c}{V_{be}}$ b) $\frac{V_{be}}{I_b}$ c) $\frac{I_c}{I_e}$ d) $\frac{I_E}{I_b}$
- 6) The h-parameter h_{fe} life is known as.
 a) forward voltage gain b) forward current gain
 c) forward resistance d) forward admittance
- 7) The Common collector Amplifier is also known as-----.
 a) R-C coupled Amplifies b) direct coupled Amp.
 c) emitter follower d) None of the above
- 8) For Three Stage Amplifier $A_1 = 10dB$ $A_2 = 5dB$ & $A_3 = 12dB$ The total gain is ----

 a) 600dB b)12dB c) 54dB d) 27dB
- 9) The voltage gain of common Emitter Amplifier is -----
 a) -gm R_L b) gm. R_L c) $\frac{h_{fe}^2}{h_{je}} \cdot R_L$ d) 1
- 10) The feedback factor is symbolically represented by-----
 a) α b) η c) β d) Ω