Total No. of Printed Pages:2

**SUBJECT CODE NO:- 2120**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**B.Sc. F.Y Sem-II**
**Examination March/April-2022 (To be held in June/July-2022)**
**Electronics Paper-IV**
**Amplifiers**

**[Time: 1:53 Hours]** **[Max. Marks:50]**

Please check whether you have got the right question paper.

N.B
    1) Attempt all questions.
    2) Illustrate your answer with suitable diagram

Q.1 With neat circuit diagram. Explain the working of base bias or self bias circuit and hence derive the 20
expressions for $I_{CQ}$ & $V_{CCQ}$ draw D.C load line

OR

Draw a neat circuit diagram of direct coupled amplifier & explain its working 20

Q.2 Explain how feedback affects the output impedance when 20

1) Feedback work in shunt with output

2) Feedback works in series with output

OR

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Write short notes on the following any four

a) Load line of transistor

b) Two port network

c) Feedback principle

d) Band width

e) Frequency response

f) Decibel gain

Q.3 Attempt following MCQ with correct answer 10

1. The $\propto$ for transistor is

    a) $\frac{I_B}{I_E}$                                    b) $\frac{I_B}{I_c}$

c) $\frac{I_C}{I_E}$

d) $\frac{I_E}{I_C}$

2. Voltage gain A$\vartheta$ is the ratio of
   a) $\vartheta i/\vartheta_o$
   b) $\frac{\vartheta_i}{I_C}$
   c) $\frac{\vartheta_o}{\vartheta_i}$
   d) $\frac{\vartheta_o}{I_o}$

3. If the absolute power gain of an amp. Is 100 then its decibel gain is-------
   a) $40\partial B$
   b) $100\partial B$
   c) $60\partial B$
   d) $20\partial B$

4. The $\beta$ for the transistor is
   a) $\frac{I_E}{I_C}$
   b) $\frac{I_C}{I_E}$
   c) $\frac{I_B}{I_C}$
   d) $\frac{I_C}{I_b}$

5. The gain of the amplifier after feedback --------
   a) Increases
   b) Decreases
   c) Remains constant
   d) None Above

6. Hybrid parameter means
   a) Resistance parameter
   b) Admittance parameter
   c) Mixed parameters
   d) Voltage parameters

7. Single battery operation are possible in -----amplifier.
   a) C.B.
   b) C.E.
   c) C.C.
   d) C.S

8. If the operating point changes shape of the output signal is known as -----------
   a) Faithfull
   b) Un-faithful
   c) Thermal runaway
   d) Stabilization

9. In any mode the working of transistor is –in –bias
   a) Forward-reverse
   b) Forward- forward
   c) Releasers – forward
   d) Reverse-reverse

10. In common collector amplifier the voltage gains -------
    a) 1
    b) gm.RL
    c) –gm.RL
    d) None

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