

12. (a) With neat diagram, analyze the transistor amplifier circuit using h - parameter (16)

Or

- (b) (i) Describe with neat circuit diagram, the operation of Common Drain amplifier with small signal equivalent circuit. Derive the equation for voltage gain, input impedance and output amplifier. (10)
- (ii) What is a differential amplifier? (6)
13. (a) Derive the needed expressions for high frequency π model for a transistor with neat circuit diagram. (16)

Or

- (b) With the help of high frequency model of FET, derive the necessary expressions for gain and Bandwidth. (16)
14. (a) Describe the basic concept involved with Class B and Class B push pull amplifier. (16)

Or

- (b) Write notes on:
- (i) MOSFET power amplifiers. (10)
- (ii) Thermal Stability and heat sink. (6)
15. (a) Explain the basic operation of full wave rectifier and bridge rectifier. Derive the expression for ripple factor, efficiency, transformer utilization factor for full wave rectifier. (16)

Or

- (b) Describe the basic principle of operation of SMPS. (16)
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