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Code No: S9504

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year I Semester Examinations, November/December - 2017
ELECTRONIC CIRCUITS
(Electrical and Electronics Engineering)

Time: 3 hours **Max. Marks: 75**

Answer any five questions
All questions carry equal marks

1.a) Describe the methods of determination of h-parameters from its static Input and output characteristics.
b) Draw and explain the h-parameter equivalent circuit of a transistor in CC configuration. Derive the expressions for input impedance, output impedance. [7+8]

2.a) Assume the effect of coupling capacitors on the low frequency response of BJT amplifier.
b) Explain the analysis of low frequency FET amplifier. [7+8]

3.a) Explain voltage series and shunt feedback amplifier with an example.
b) Describe the characteristics of negative feedback amplifier. [8+7]

4. Derive the expression and characteristics of oscillator
a) RC Phase shift
b) Hartley. [8+7]

5.a) Derive an expression for the upper cut-off frequency of a low pass circuit.
b) Explain the operation of the transformer coupled class A audio power amplifier and derive the maximum value of efficiency used in audio power amplifier. [7+8]

6.a) Explain the operation of shunt negative clipper with circuit diagram and input- output waveforms.
b) Explain the operation of positive clamper with circuit diagram and input – output waveforms. [8+7]

7.a) Explain details about the switching characteristics on PN diode with neat Sketch.
b) Explain details about the switching characteristics of transistor with neat Sketch. [7+8]

8.a) What is monostable multivibrator? Explain with the help of a neat circuit diagram the principle of operation of a monostable multi and derive an expression for pulse width.
b) Derive an expression for the period of oscillations of astable multivibrator. [8+7]

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