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**3rd Sem / Branch : Electrical Engg.**

**Subject:- Electronics-II**

Time : 3Hrs.

M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 In power amplifier, load resistance should be.
- a) As small as possible.
  - b) As large as possible.
  - c) Equal to output impedance.
  - d) Any of the above.
- Q.2 The transformer is used in the output of a power amplifier mainly to.
- a) Safeguard the transistor against overheating.
  - b) Increase the voltage gain.
  - c) Step up the voltage.
  - d) Match the load impedance with dynamic output resistance of the transistor.
- Q.3 One of the effect of negative feedback in amplifier is the.
- a) Increase the noise.
  - b) Increase in harmonic distortion.
  - c) Decrease in bandwidth.
  - d) Decrease in harmonic distortion.

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- Q.4 In a transistor Hartley oscillator.
- a) Inductive feedback is used.
  - b) Untapped coil is used.
  - c) Entire coil is in the output circuit.
  - d) None of the above.
- Q.5 In RC phase shift oscillator, the minimum number of RC network to be connected in cascade will be.
- a) One
  - b) Two
  - c) Three
  - d) Four
- Q.6 An operational amplifier is a.
- a) Direct coupled high gain amplifier
  - b) Device to perform linear operations.
  - c) Device to perform non-linear operations.
  - d) All of the above.
- Q.7 The term IC, as used in electronics.
- a) Internal combustion.
  - b) Industrial control.
  - c) Integrated circuit.
  - d) Internal circuit.
- Q.8 To generate 1 MHz signal, the most suitable oscillator is.
- a) Colpitt's oscillator
  - b) Phase-shift oscillator
  - c) Wien bridge oscillator
  - d) None of the above
- Q.9 Astable multivibrator has.
- a) A stable state
  - b) Two quasi stable states
  - c) An oscillator
  - d) Collector resistors

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- Q.10 An emitter follower is mainly used as.
- an impedance matching device.
  - A power amplifier
  - A follower of base signal
  - A voltage amplifier

### SECTION-B

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Push pull amplifier uses two transistors.(True/False)
- Q.12 \_\_\_\_\_ Feedback is essential for the operation of an oscillator.
- Q.13 The series 7900 ICs are negative voltage regulator. (True/false)
- Q.14 Write the primary function of clamper circuit
- Q.15 Clipping of input AC signal \_\_\_\_\_ is used.
- Q.16 Write one application of tuned voltage amplifiers.
- Q.17 Define clamper.
- Q.18 Write one use of multivibrator.
- Q.19 Define collector efficiency.
- Q.20 Expand CVT.

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Give the advantage of power amplifier over voltage amplifier.
- Q.22 Explain the working principle of class B power amplifier.
- Q.23 Describe the concept of impedance matching in power amplifier using transformer.
- Q.24 Explain the working of Push pull amplifier with help of circuit diagram.

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- Q.25 Describe the working of single tuned voltage amplifier.
- Q.26 Enlist at least five applications of tuned voltage amplifier.
- Q.27 Write need of positive and negative feedback in amplifier.
- Q.28 Explain the effect of negative feedback on voltage gain and stability of an amplifiers.
- Q.29 Explain the working of emitter follower.
- Q.30 Give the essential of an sinusoidal oscillators.
- Q.31 Draw the circuit diagram colpitt's oscillators and explain it.
- Q.32 Explain the positive and negative clipper circuit.
- Q.33 Differentiate between astable and bistable multivibrator.
- Q.34 Describe the working of differentiator using Op-amp.
- Q.35 Draw and explain the pin diagram of IC 741.

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the working and collector efficiency of class-A single ended power amplifier with the help of circuit diagram.
- Q.37 Explain the construction and working of wien bridge oscillator with the help of circuit diagram. Also give its advantages and disadvantages.
- Q.38 Draw the block diagram and explain the operation of 5551C timer.

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