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127543

4th Sem. / Fire Technology and Safety

Subject : Electronic Devices and Circuits

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) What is the use of voltage amplifier?

b) Define power dissipation capability.

c) Efficiency of class B amplifier is _____ than that of class A amplifier.

d) Define harmonic distortion.

e) Class C amplifiers are used as _____.

f) In push-pull arrangement, when one transistor is ON, the other is OFF and vice versa. (True/ False)

g) Define tuned amplifier.

h) Define quality factor.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Explain principle of working of complementary symmetry push pull amplifier.

Q.4 What are typical feedback circuits? Draw potential divider feedback circuit and collector base voltage feedback circuit.

Q.5 Explain diagram and working of wein's bridge oscillator circuit.

Q.6 Explain the working of transistor inverter circuit using power transistors.

Q.7 Explain basic operational amplifier. Name different basic amplifier applications.

i) What is frequency response?

j) Voltage gain of an amplifier with negative feedback is given by _____ .

k) Define Oscillator.

l) Define piezoelectric crystal.

m) Draw rectangular waveform.

n) Transistor can be employed as a switch. (True / False)

o) What is diode?

p) Full form of CVT is _____.

q) Which IC is used as voltage regulator?

r) IC555 has _____ number of pins.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) What is the use of heat sink in the power amplifier?

ii) What are the advantages of push pull amplifier circuit?

iii) What are the applications of tuned voltage amplifiers?

iv) What is the importance of positive feedback in amplifiers?

v) What are the limitations of LC oscillators?

vi) What are the essentials of an oscillator?

vii) Write a short note on "Crystal oscillator circuit".

viii) Define and draw an integrating circuit.

ix) What are different applications of wave shaping circuits?

x) What is bi-stable multivibrator circuit?

xi) What are different types of power supply?

xii) Write a short note on "SMPS".

xiii) Draw block diagram of IC 555.

xiv) What is differential amplifier? Explain.

xv) Draw pin configuration of IC 741.