

Lib 04

Q.P. Code :13322

[Time: Three Hours]

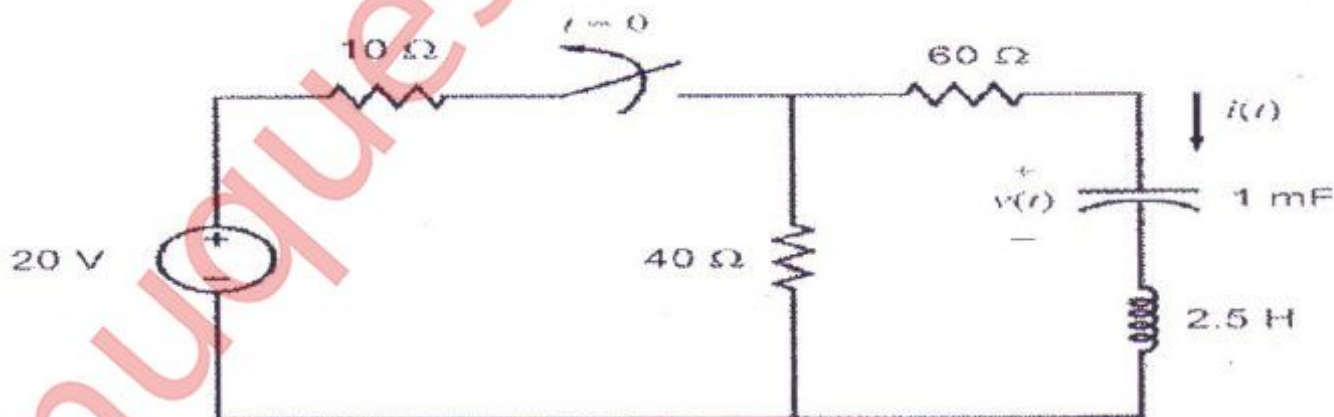
[Marks:80]

Please check whether you have got the right question paper.

N.B:

1. Question no 1 is compulsory. Attempt any Four
2. Attempt any three question from remaining
3. Assume suitable data if required, justify your assumptions.

- Q.1 a) Difference between forced and natural response of RLC network 5
 b) A sinusoidal voltage of frequency 2Hz is connected in series with switch and $R=100\Omega$ & $L=0.1H$. Calculate the transient current $i(t)$. 5
 c) Explain the difference between BJT and FET. 5
 d) What is meant by pole and zero? State significance. 5
 e) A 6 pole, 3phase induction motor is connected to 50Hz supply. If it is running at 5970rpm. Find the slip 5
- Q.2 a) Explain the working & characteristics of N channel depletion type MOSFET 10
 b) The armature of 4 pole, lapwound shunt generator has 120 slots with 4 conductors per slot. The flux per pole is 0.05Wb, The armature resistance is 0.05Ω & the shunt field resistance is 500. Find the speed of the machine when 450A at a terminal voltage of 250 v.
- Q.3 a) Suppose that switch in following fig has been closed for a long time and is opened at $t=0$
 find i) $i(0+)$ and $v(0+)$
 ii) $\frac{di(0+)}{dt}$
 iii) $i(t)$ for $t > 0$



- b) Explain Different methods of Starting Single phase induction Motor

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- Q.4 a) A voltage across capacitor C is exponentially increasing with time constant 100m/sec .If supply voltage to series RC circuit is b y determine $V_c(t)$ at
i) $t=50\text{m/sec}$ ii) $t=100\text{ m/sec}$ iii) 500 m/sec
- b) Classify unipolar brushless DC motor & explain in detail unipolar brushless D.C motor
- b) Write a short note on Equivalent circuit of Induction motor
- Q.5 a) Describe the V-I characteristics of JFET with different operating region 10
b) Write a short note on Equivalent circuit of Induction motor 10
- Q.6 Write Short note on Any Three 20
a) Transfer function
b) Regions of operation as an amplifier & switch
c) Advantage and Disadvantage of DC motor
d) State the type of Synchronous motor