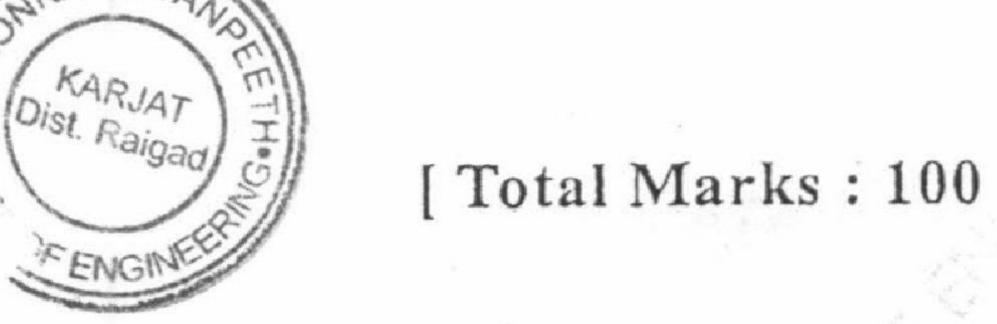
QP Code: 5514

Mechanical/Automobile





| I | B.: (1) Question No. 1 is compulsory. (2) Attempt any four questions out of the remaining six questions. | |
|----|---|------------|
| | (3) Assume suitable data if necessary. | |
| 1. | Solve any Five. (a) Draw characteristics of SCR, Triac, MOSFET and IGBT. (b) Draw connection of an LED and a switch to MSP430. (c) Explain basic principle of single phase inverter. (d) Enlist characteristics of ideal op-amp. (e) Give an example of analog circuit, digital circuit, combinational circuit ar sequential logic circuit. (f) Draw torque-speed characteristics of DC shunt motor and 3-phase induction motor (g) What do you understand by R-L and R-L-E load? | |
| 2. | (a) Explain in brief functional block diagram of MSP430. (b) Draw and explain block diagram of closed loop speed control of DC motors. | 7 or. 7 |
| | Also state need of inner current loop. (c) Draw and explain any one application circuit of Triac-Diac. | . 6 |
| | (a) Explain 555 monostable multivibrator. (b) Explain frequency control scheme of 3-phase induction motor with the he of block diagram. | lp 7 |
| | (c) Write a short note on :-Forced turn-off of SCR | 6 |
| 4. | (a) Draw the circuit diagram of differentiator and integrator; write the outpequation of each. | ut 7 |
| | (b) Enlist triggering methods of SCR and explain any one gate triggering method of SC (c) What do you understand by a Digital circuit? Elaborate following terr regarding digital circuits:- (i) logic level (ii) noise immunity (iii) propagation delay (iv) power dissipation (v) fan out. | |
| 5 | (a) Elaborate:- accuracy, resolution and least significant bit regarding 10-bit AD (b) Write a short note on 'selection of motor and power rating for a pump'. (c) Explain asymmetrical semi controlled converter with R load and deri equation of output voltage. | - |
| 6 | (a) Compare - BLDC motor, DC motor and induction motor. (b) Compare- Microprocessor and Microcontroller. | |

Compare- TTL and CMOS technology.

B1K 04 + 07

Course: S.E. (SEM-IV) (REV-2012) (CBSGS) (MECH ENGG) C.W. (AUTO ENGG.)

(Prog - T1824 CW T0524)

QP Code: 5514

Correction:

Plz do the corrections as follows

The

Max marks are 80

In Note Que1compulsory and attempt any three out of remaining questions

Query Update time: 22/12/2015 02:52 PM