Enrolment No._____

HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL

MID SEMESTER EXAMINATION, SEPTEMBER-2016

Subject Code: (2130904) **Date: 29-09-16**
Subject Name: DCMT **Sem: 3RD**
Time: 10:00 TO 10:50 **Total Marks: 20**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

QUE.1 **(A)** ANSWER FOLLOWING [EACH OF 1 MARK] **3**
1) Write the function of interpole in DC machine.
2) Why DC series motor can never be started on No-Load?
3) Define Back emf for DC Motor.

(B) ANSWER FOLLOWING [EACH OF 1 MARK] **3**
1) On what principle DC generator works?
2) How can the direction of rotation of a dc motor be reversed?
3) What is commutation?

QUE.2 **(A)** Neatly sketch & explain the internal & external characteristics of a DC shunt generator. **3**

(B) What is the necessity of starter in a DC motor? Draw sketch only 3 point starter for DC motor **4**

OR

(B) Define armature reaction. List out two effect of armature reaction in DC machine. How it can be minimized? **4**

QUE.3 **(A)** Explain each part of DC machine with neat sketch. **3**

(B) A shunt generator delivers 195A at terminal voltage of 250V.The armature resistance and shunt field resistance are 0.02 Ω and 50 Ω respectively. The iron and friction losses equal 950W. Find: (i) Emf generated (ii) Cu losses **4**

OR

(A) List the methods of speed control of DC series motor, explain any one in detail. **3**

(B) A 200V dc shunt motor develops an output of 17 kW, when taking 20 kW. The field resistance and armature resistances are 50 Ω and 0.06 Ω respectively. What is the efficiency and input power if output power is 7.46kW? **4**

********** **ALL THE BEST** **********