Enrolment No._____

HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL

MID SEMESTER EXAMINATION, SEPTEMBER-2016

Subject Code:2170909 **Date:26/09/2016**

Subject Name: DACM **Sem:3RD/5TH /7TH**

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)**	Explain the factors affecting the selection of Air gap of three phase Induction Motor.	**3**
	(B)	Draw the current distribution wave form spreaded over one pole pitch in bars and end rings squirrel cage induction motor.	**3**
QUE.2	**(A)**	Explain design difference between low speed and high speed machine.	**3**
	(B)	Determine main dimensions and turns per phase of a 3 MVA, 11 kV 50 Hz 32 pole three phase star connected alternator. Assume average gap density of 0.55 wb/m2 , ac = 30000, winding factor 0.955. Use L/τ ratio of 1.2.	**4**
		OR	
	(B)	An 11 kW, 3phase, 6 pole, 50 Hz, 220 V star connected induction motor has 54 stator slots, each containing 9 conductors. Calculate the values of bar and end ring currents. The number of rotor bars is 64. The machine has an efficiency of 0.86 and a power factor of 0.85. The rotor mmf may be assumed as 85 percent of stator mmf. Also find the bar and the end ring sections if the current density is $5A/mm^2$.	**4**
QUE.3	**(A)**	Explain SCR and its effect on synchronous machine performance.	**3**
	(B)	(1) Why are conductors in the overhang are braced? (2) What are the advantages of circular poles?	**4**
		OR	
	(A)	what is dispersion coefficient? Show its effect on maximum power factor of three phases Induction Motor.	**3**
	(B)	Explain the terms in details: (1) peripheral speed (2) Run away speed	**4**

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