Fnrolln	nent l	No: H	Exam Seat No:	
Em om	iletit 1	C. U. SHAH UN Summer Examin	VIVERSITY	
	Code		Branch: B.Tech (Electrical) Time: 11:00 To 02:00	Marks: 70
(2) (3)	Use of Instru Draw	of Programmable calculator & any othe uctions written on main answer book ar we neat diagrams and figures (if necessar time suitable data if needed.	e strictly to be obeyed.	uibited.
Q-1		Attempt the following questions:		(14)
	a)	The rotor of the squirrel cage rotor is s	kewed to minimize the surfac	ee
	<b>b</b> )	losses. (True/False). What is the effect of seventh harmonic motor?	on performance of induction	
	c)	The distance measured at the front sid (a) Front Pitch (b) Back Pitch (c) Con		
		The value of commutator pitch is one	<u> </u>	
	e)	The limiting value of peripheral velocities (a) 30 m/s (b) 3 m/s (c) 300 m/s (d) Nor	•	_•
	f)	The voltage divider bias method offers (True/False)		on.
	g)	If the power factor of induction motor capacity is (a) Higher (b) Not a above	•	of the
	h)	If speed of an induction motor is higher (True/False)	er its diameter will be less.	
	i)	If size of the motor is bigger its rating	will be (Higher/Lower	r)
	j)	The co-efficient relates the leaka (a)Carter (b) Steinmetz (c) Plank (d) I	_	
	k)	If the power factor of induction motor capacity is (a) Higher (b) Not a above.	•	of the
	<b>l</b> )	What will be the status of leakage flux	if semi enclosed slot is used?	•



m) If ampere conductor loading is higher the cooling required by motor shall

be \_\_\_\_. (Higher/Lower)

**n)** What is commutator pitch?

## Attempt any four questions from Q-2 to Q-8

Q-2		Attempt all questions	<b>(14)</b>
	(a) (b)	Draw the Sketches of component for leakage fluxes in rotating machines. State the name of various parts of induction motor. State the function of each part.	(7) (7)
Q-3		Attempt all questions Develop a winding table and draw the sketch of winding for 4 pole, 6 slot simplex lap wound generator with 16 coils	(14)
Q-4		Attempt all questions	(14)
	(a)	Draw the sketch of mush winding.	<b>(7</b> )
	(b)	Derive the output equation for the design of 3 phase induction motor.	<b>(7)</b>
Q-5		Attempt all questions	(14)
	(a)	Discuss the choice of specific magnetic loading on the design of	(7)
		induction motor.	
	(b)	Discuss the effect of harmonics on the design of 3 phase induction motor.	<b>(7</b> )
Q-6		Attempt all questions	(14)
	(a)	Discuss the comparison between choice of semi enclosed slots and open slots.	<b>(7</b> )
	(b)	Discuss the design of rotor core for three phase induction motor.	<b>(7)</b>
Q-7		Attempt all questions	(14)
	(a)	What is carter's co-efficient? Discuss its effect on the design of induction machine.	<b>(7</b> )
	(b)	Discuss any three point of stator design for single phase induction motor.	<b>(7)</b>
Q-8		Attempt all questions	(14)
-	(a)	Discuss the effect of number of rotor slots on the design of 3 phase induction motor.	(7)
	(b)	Discuss the effect of cogging and crawling for 3 phase induction motor.	<b>(7</b> )

