## Bihar Engineering University, Patna End Semester Examination - 2023

Course: B. Tech code: 110402

Semester: IV Subject: Fleetwical Machine-II

Time: 03 Hours Full Marks: 70

<ul> <li>motors. Also explain the operation of a capacitor start- capacitor run single phase induction motor.</li> <li>Q.3 (a) List the differences between Rotating and pulsating magnetic field with suitable diagrams.</li> <li>(b) Differentiate concentrated winding and distributed winding with neat and labelled diagram. Discuss why the windings are distributed sinusoidally.</li> <li>Q.4 (a) Explain the effect of excitation on armature current and power factor of a synchronous motor and hence deduce the V and inverted V curves.</li> <li>(b) Explain the two reaction theory of salient pole alternator.</li> <li>Q.5 (a) A 6 pole, 50 Hz, 3 phase Slip ring induction motor, the rotor resistance and the reactance at stand still per phase are 0.3 and 1.5 Ω respectively. The e.m.f. between the slip rings on open circuit is 175 volt. Calculate (i) Slip (ii) rotor e.m.f./phase (iii) rotor frequency and reactance when the motor runs at a speed of 950 r.p.m.</li> <li>(b) Describe the constructional feature of 3 phase slip ring induction motor.</li> <li>Q.6 (a) What are the different types of starters used for starting a 3 phase induction motor?</li> <li>(b) Discuss the various methods adopted for braking of an induction motor.</li> <li>(c) What is necessity of parallel operation of alternators? State the conditions necessary for paralleling alternators.</li> <li>(d) What are the different methods of finding the voltage regulation of the conditions necessary for paralleling alternators.</li> </ul>	Coue. 1	Subject: Electrical Machine-II	
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0.8	(a)	Explain the constructional details of a synchronous motor.	[7]
	(b)	Differentiate between the phenomenon Cogging and crawling of an induction motor.	[7]

Q.9 Write short notes on any two of the following:

[7x2=14]