

Total No. of Printed Pages:2

SUBJECT CODE NO:- H-297
FACULTY OF SCIENCE AND TECHNOLOGY
T.E. (EEP/EE/EEE) (Sem-I)
Special Purpose Electrical Machines
[OLD]

[Time: Three Hours]

[Max.Marks:80]

N.B

Please check whether you have got the right question paper.

1. Q.1 and 6 are compulsory.
2. Solve any two questions from each section.

Section A

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| Q.1 | Attempt any five: <ol style="list-style-type: none"> a) Why the induction generator is often called as an asynchronous generator? b) Write any four application of stepper motor. c) Why stepper motor called so? d) What is the maximum rating of FHP motor? e) What is the electronic commutator? f) Write applications of synchronous reluctance motor. | 10 |
| Q.2 | a) Explain application of induction generator for mini/micro hydel system. | 07 |
| | b) Explain construction and working of switched reluctance motor. | 08 |
| Q.3 | a) Explain the construction and working of synchronous reluctance motor. | 07 |
| | b) Explain the construction, working and application of PMSM. | 08 |
| Q.4 | a) Describe linear induction motor in detail. | 07 |
| | b) Explain variable reluctance stepper motor in detail. | 08 |
| Q.5 | Write short note on following: <ol style="list-style-type: none"> a) Brushless dc motor. b) Self-excitation requirement in case of induction generator . c) Fractional Horse power synchronous motor. | 15 |

Section – B

- Q.6 Solve any five: 10
- Write two applications of high frequency transformer.
 - What are the various reasons of heating-element failure?
 - Give the classification of electric welding.
 - List out types of welding equipment's.
 - State faraday's first law of electrolysis.
 - Define electro plating.
- Q.7 a) Explain welding transformer in detail. 07
- b) Describe the buck – boost transformer with neat connection diagram. 08
- Q.8 a) What is dielectric heating? Explain the factors on which dielectric loss in dielectric material depend. 07
- b) Explain MI4 welding in detail. 08
- Q.9 a) State and explain laws of electrolysis. 07
- b) Describe in detail, the application of electrolytic process used for metal extraction. 08
- Q.10 Write short note on following: 15
- High frequency transformer
 - Induction heating
 - Applications of electrolysis