

Total No. of Printed Pages:2

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

[Time: Three Hours]

[Max.Marks:80]

Please check whether you have got the right question paper.

N.B

- i) Q 1 & Q 6 are compulsory.
 ii) Solve any two questions from remaining questions.

Section A

- | | | |
|-----|---|----------|
| Q.1 | Solve <u>any five</u> . | 10 |
| | a) List applications for synchronous reluctance motor.
b) Write two applications of LIM.
c) Define stepping angle.
d) Draw equivalent circuit of self excited induction generator.
e) Give the difference between single stack & multi stack stepping motor.
f) What is meant by “Axial Air gap”?
g) Why the induction generator is often called as an asynchronous generator?
h) What is the maximum available power rating of any FHP motor? | |
| Q.2 | a) Justify the statement “BLDC motor is called as Electronically commutated motor”.
b) Explain different methods of voltage control in induction generator. | 08
07 |
| Q.3 | a) Explain application of induction generator for mini & micro hydel system with neat sketch.
b) Describe construction & working of Linear Induction Motor. | 07
08 |
| Q.4 | a) Explain construction, working & application of PMSM.
b) Explain construction & working of hybrid stepper in detail. | 07
08 |
| Q.5 | a) Explain self-excitation requirement in case of induction generator.
b) Give comparative study of axial & radial air gap synchronous reluctance motor. | 08
07 |

Section B

- Q.6 Solve any five. 10
- Write two ways of extraction of metal.
 - What is ARC Blow?
 - Write four applications of resistance oven.
 - Give the reasons for failure of heating element.
 - Name two gases used in MIG welding.
 - State faradays first law of Electrolysis.
 - Define convection of heat.
 - List out types of welding equipment.
- Q.7
- Explain different methods of induction heating with applications. 08
 - What is dielectric heating? Explain the factors on which dielectric loss depends. 07
- Q.8
- Explain the factors affecting electro-deposition. 08
 - Describe in detail application of electrolytic process used for metal extraction. 07
- Q.9
- Explain construction, working & applications of welding transformers in detail. 07
 - Give the classification of welding processes. Explain spot welding in detail. 08
- Q.10
- Write the process of induction heating & give example of its applications also draw a sketch of process execution. 08
 - Explain construction working & application of rectifier transformer in detail. 07