Total No. of Printed Pages:2

SUBJECT CODE:- 258
FACULTY OF ENGINEERING AND TECHNOLOGY
T.E.(EEP/EE/EEE) Examination Nov/Dec 2015
Special Purpose Electrical Machines
(Revised)

[Time: Three Hours] **[Max. Marks: 80]**

"Please check whether you have got the right question paper."

N.B i) Q. no. 1 and Q. no. 6 are compulsory
ii) Attempt any two questions form remaining from each section
iii) Figures to the right indicate full marks.
iv)Assume suitable data from required

Section A

Q.1 Solve any five from the following 10
a) What are the advantages of BLDC motor
b) Write the minimum angle of step, available in stepper motor
c) What is the meaning of doubly fed induction machine
d) Define reluctance
e) Give two applications of LIM
f) What is meant by "Axial Air gap"
g) Why stepper motor called so?
h) Why the induction generator is often called as an asynchronous generator

Q.2 a) Explain construction and working of hybrid stepper motor 08
b) Explain different methods of voltage control in induction generator 07

Q.3 a) Explain application of IG for grid connected wind and mini / micro hydel system 07
b) Explain construction and working of reluctance motor. 08

Q.4 a) Explain construction and working of BLDC motor. 07
b) Describe the linear induction motor in detail. 08

Q.5 a) Describe the features of fractional horse power synchronous motor 10
b) Give the comparative study of three types of stepper motor

Section – B

Q.6 Solve any five 10
a) What is buck –boost transformer?
b) Why electric heating is preferred over other forms of heating
c) What are the special applications of dielectric heating?
d) What is welding
e) What is the of electric supply is suitable for electric arc welding
f) What is the advantage of using submerged arc welding
g) Give one example of application of rectifier transformer
h) State Faraday's first law of electrolysis

Q.7 a) Explain different method of heat transfer and under what conditions heat transfer by radiation is efficient. 08
b) Why do buck – boost transformer has four winding? Can buck boost transformers be used on three – phase system 07

Q.8	a)	Describe with neat sketches the various methods of electric resistance welding. Give it's merits and demerits.	08
	b)	Explain the principle of electric spot welding.	07
Q.9	a)	Explain the process extraction of aluminum	08
	b)	Explain in brief the principle of electrodeposition	07
Q.10	a)	Explain MIG welding in detail	08
	b)	A rectifier transformer is supplied by 415 V, 50 HZ ac supply to provide rectified output to a smelter plant. How much voltage will we get at the output? calculate .	07

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