Symbol of Secularism & National Integration

ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: PSGE | **UT:II**
Marks: 20 | **Duration: 1 hr**
Class: Third Year | **Branch: EE**

QUESTION NUMBER 1 IS COMPULSARY ANSWER ANY ONE IN REMAINING 2.

1) Explain working of Buchholz relay showing its location and justify why it can't be used in dry transformer. Also mention advantages and Limitations. [10M] [CO4]
2) Explain three step protection provided for transmission line. [10M][CO5]
3) Explain differential protection provided for different types of bus zones. [10M] [CO5]

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Subject: electrical machine 2 **Date:**
Marks: 20 **Duration: 1 hr**
Class: Third Year **Branch: EE**

Q 1. SOLVE ANY **TWO** OUT OF FOUR. [20 MARKS]

1] Explain priciple operation of 3 phase induction motor **[CO1]**
2] Explain double revolving field theory and draw torque speed curve of 1 phase I.M. **[CO1]**
3] why starters are necessary for starting3 phase I.M. and describe DOL starter and auto X'mer starter.**[CO2]**
4]Discuss brieflyvarious methods of speed control of I.M.**[CO5]**

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ANJUMAN-I-ISLAM'S
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Unit Test- II

Subject: Electromagnetic field and Wave
Marks: 20
Class: Third Year

Date:
Duration: 1 hr
Branch: EE

NOTE :- SOLVE ANY TWO QUESTIONS . Marks (10 ×2=20)

Q. 1) Explain Biot Savart's Law in magnetic fields.

Q.2) Derive the Poission's and Laplace equation and Determine whether the following Potential Field satisfy Laplace equation or not?

$$V = r \sin \Phi + Z.$$

Q.3) State the Maxwell's equations for time varying felids in integral and point form and Show that following field vectors in free space,

$$\bar{E} = E_0 \cos(wt - \beta z)\, \bar{a}_x$$

$$\bar{H} = E_0/n \cos(wt - \beta z)\, \bar{a}_y$$

Can satisfy all Maxwell's equation or not?

Q.4) A Current sheet $\bar{K} = 10\, \bar{a}_z$ A/m lies in x = 4 m plane and a second current sheet $\bar{K} = -8\bar{a}_z$ A/m lies at x = 5 m plane .Find $\bar{H}$ at point P (1, 1, 1)

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Subject: POWER ELECTRONICS **Date:**
Marks: 20 **Duration: 1 hr**
Class: Third Year **Branch: EE**

Q 1. SOLVE ANY **TWO** OUT OF THREE. [10 MARKS]

1) Explain 1 phase full bridge inverter with R-L load . [CO3]
2) Explain 3 phase full converter with continuous mode with R load . [CO3]
3) Explain matrix converter. [CO5]

Q 2. SOLVE ANY **ONE** OUT OF TWO. [10 MARKS]

1) Explain 3 phase inverter with 120 degree mode. [CO3]
2) Explain SMPS , BOOST and Buck regulator. [CO4]

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Subject: POWER ELECTRONICS **Date:**
Marks: 20 **Duration: 1 hr**
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