



Symbol of Secularism
& National Integration

ANJUMAN-I-ISLAM'S

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

School of Engineering & Technology

2013-14

Set-01

Subject: Environmental Studies

Date: 07/09/2013

Div : ET/CO/ELEC (SEM-V) UT-I
T.E. (Sem V)

Marks: 20

Duration: 1hr(2.30 to 3.30)

Unit Test : 1

N.B. (1) Q No. 1 is Compulsory

(2) Attempt any ONE question from Q No. 2 & 3

1. Answer any three:

[4 * 3]

- Write a short essay on Bhopal gas tragedy.
- What are the sources of E-pollution & its effects?
- What do you mean by ecological succession? Elaborate with an example.
- 'The automobile is one of the worst inventions by humankind.' Comment.

2. Explain how every source of energy has its limits.

[8]

3. (a) What is the impact of deforestation on the environment? Give a case study wherein the local people have successfully agitated against deforestation.

[5]

(b) What is meant by eutrophication of lakes?

[3]

UT-I

3rd
yr.

UT - I
3rd yr



2013-14

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

Subject: C.E

Marks: 30

Date: 06/09/13

Duration: 1Hr

Class: Third Year (Sem I)

Branch: Electrical

UT - I

Q.1 Solve any two out of three (5 marks each)

(a) A modulating signal $10 \sin (2\pi * 10^3 t)$ is used to modulate a carrier signal $20 \sin (2\pi * 10^4 t)$. Find the modulation index, percentage modulation, frequencies of the sideband components and their amplitudes. What is the bandwidth of the modulated signal? Also draw the spectrum of the AM wave.

(b) Explain the need of Modulation in communication.

(c) The carrier frequency of an FM broadcast transmitter is 100MHz and maximum frequency deviation is 75Khz. If the highest audio frequency modulating carrier is 15Khz. What is the approximate bandwidth of the signal?

Q.2 Solve any one out of two (10 marks each)

(a) Explain Balanced Modulator using Diode.

(b) Draw and explain the block diagram for Superhetrodyne Receiver.

Q.3 Solve any one out of two (10 marks each)

(a) Derive AM wave Equation.

(b) Explain Noise Triangle and Pre-emphasis De-emphasis circuit.

.....**ALL THE BEST**.....



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ANJUMAN-I-ISLAM'S 2013-14
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL
School of Engineering & Technology

Subject: Electrical machine -II

Marks: 30

Date: /09/2013

Duration: 1 hr

Class: TE (Sem 2)

Branch: Electrical Engg

***** U.T - I *****

Instructions.

1. Question no 1 is compulsory.
2. Solve any one from each question.

Q.1 Solve any two.

1. Define synchronous speed and slip. (02)
1. Explain power stages in 3 ph induction motor. (04)
- 2 Explain torque speed characteristics of three phase induction motor. (04)

Q.2 Solve any one. (10)

1. Explain construction of circle diagram of three phase induction motor in detail.
2. A 4pole 50Hz 7.46kw IM has a rated voltage and frequency. A starting torque of 160% and a max torque of 200% determine
 1. Full load speed
 2. Speed at max torque.

Q.3 Solve any one (10)

1. Explain load test on 3 ph induction motor in brief.
2. A10kw, 3 ph 400v, 4hp, 50Hz, delta connected IM gave the following test result

No load test. 400v 8A 250w

Block rotor test. 90v 35A 1350w

The dc resistance of stator winding per ph is 0.6 ohm. Calculate rotational losses and eq. ckt parameters.



ANJUMAN-I-ISLAM'S

UT-I KALSEKAR TECHNICAL CAMPUS, NEW PANVEL 2013-14

School of Engineering & Technology

Subject: P.S.A

Date: 06/09/2013

Marks: 30

Duration: 1 Hr/s

Class: TE ELECTRICAL (Sem V)

Branch: ELECTRICAL

Instructions: Question No. 1 is compulsory.

Q1)

- A) Disadvantages of Corona. [3 MARKS]
- B) Factors affecting Corona. [4 MARKS]
- C) Define descriptive critical voltage and Visual Critical Voltage in Corona. [3 MARKS]

Q2) Solve any Two..

Write Short Note on:-

- A) Selection of Circuit Breaker [10 MARKS]
- B) Z bus formulation [10 MARKS]
- C) Insulation Coordination [10 MARKS]
- D) Double line to Ground fault (LLG) [10 MARKS]



ANJUMAN-I-ISLAM'S
KALSEKAR TECHNICAL CAMPUS, NEW PANVEL 2013-14
School of Engineering & Technology

Subject: Electromagnetic Fields & Waves (EFW)

Date: 05 / 09 / 2013

Marks: 30

Duration: 1-Hr/s

Class: TE (sem V)

UT-I

Branch: Electrical Engineering

- Instructions: 1) Question 1st is compulsory.
2) Figures to the right indicate full marks.
3) Assume the data if it is necessary.

Q.1) Solve the following. 10 M

- (a) Given $P(r = 6, \theta = 125^\circ, z = -3)$ & $Q(3, -1, 4)$ find the distance from P to Q. 04M
(b) Derive the expression for electric flux due to a point charge. 03M
(c) Write a procedure for obtaining vectors and unit vectors. 03M

Q.2) Solve any one out of two. 10 M

- (a) A point charge, $Q_1 = 10 \mu C$, is located at $P_1(1, 2, 3)$ in free space, while $Q_2 = -5 \mu C$ is at $P_2(1, 2, 10)$ find the vector force exerted on Q_2 by Q_1 . & the coordinate of P_3 at which a point charge Q_3 experience no force.
(b) Find the volume charge density that is associated with each of the following fields.
(i) $\bar{D} = x^2 y a_x + y^2 x a_y + z a_z \text{ C/m}^2$
(ii) $\bar{D} = a_r \text{ C/m}^2$

Q.3) Solve any one out of two. 10 M

- (a) Obtain E inside, outside solid sphere. A uniform charge density $\rho_v \text{ C/m}^3$, Distributed in a solid sphere of radius 'a' find expression of E everywhere.
OR
Derivation of E due to uniform volume charge density $\rho_v \text{ C/m}^3$. Distributed in a sphere of radius 'a' centred at origin.
(b) A line charge of 2 nC/m lies on y-axis and surface charge densities are 0.1 nC/m^2 and -0.1 nC/m^2 exist on $z = \pm 0.5 \text{ m}$ respectively. Calculate electric field intensity everywhere



ANJUMAN-I-ISLAM'S
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School of Engineering & Technology

Subject: Power Electronics (PE)

Marks: 30

Class: TE (Sem V) UT-I

Date: SRPL 13

Duration: 1-Hr/s

Branch: Electrical Engineering

- Instructions: 1) Question 1st is compulsory.
2) Figures to the right indicate full marks.
3) Assume the data if it is necessary.

Q .1) Solve the following.

10 M

- (a) Draw & Explain Gate characteristics of SCR.....4M
(b) State all Methods of Turning ON of SCR & explain any one in details.....3M
(c) State all types of commutation circuits for SCR.....3M

Q .2) Solve any one out of two.

10 M

- (a) Explain R & R-C Firing circuits for SCR in details.
(b) Explain with help of neat diagram construction & working of IGBT.

Q .3) Solve any one out of two.

10 M

- (a) Define and Explain Latching current, Holding current, Forward break over voltage, Reverse break over voltage of SCR.
(b) Draw & Explain Full wave controlled rectifier with R load in details.