



Set-02

(2013-14)

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

Subject: PSA  
Date: 09.13  
Class : TE (V)

Marks: 30  
Duration: 1hrs  
Branch: Electrical Engg

NOTE: Q1 is compulsory

Test - II

Q1)

- A) Name the reactive power compensation techniques. [3M]  
B) Explain ground wires in brief. [4M]  
C) State causes of over voltage in power system. [3M]

Q2) Solve any two

Write short note on:

- A) Surge impedance loading. [10 M]  
B) Current chopping and arching ground. [10 M]  
C) Fortescue's theorem. [10 M]  
D) Bewley lattice diagram. [10 M]

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Symbol of Secularism  
& National Integration

(2013-14)

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

**Subject: C.E**

**Marks: 30**

**Date: 09.13**

**Duration: 1Hr**

**Class: Third Year (V)**

**Test - II**

**Branch: Electrical**

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

- (a) State any four properties of Fourier Transform.
- (b) Write a short note on Convolutional codes.
- (c) State and explain Shannon's-Hartley Theorem.

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

- (a) Draw and sketch ASK, FSK AND PSK waveforms for data  $b(t) = 10110011$ .
- (b) For a given generator matrix for (6,3) linear block code, generate all possible code words. Find out how many Errors can be detected and corrected.

$$G = \begin{bmatrix} 1 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 1 & 1 & 0 \\ 0 & 0 & 1 & 0 & 1 & 1 \end{bmatrix}$$

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

- (a) Explain BPSK system with the block diagram of transmitter and receiver.
- (b) Compute Huffman code and calculate code efficiency for the following.

Symbol	S0	S1	S2	S3	S4	S5	S6
Probabilities	0.25	0.25	0.125	0.125	0.125	0.0625	0.0625

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

UT - II  
3rd yr



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& National Integration

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

(2013-14)

Subject: C.E

Marks: 30

Date: 08-13

Duration: 1Hr

Class: Third Year (V)

Test - II

Branch: Electrical

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

- (a) State any four properties of Fourier Transform.
- (b) Write a short note on Convolutional codes.
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KALSEKAR TECHNICAL CAMPUS, NEW PANVEL  
School of Engineering & Technology

(2013-14)

Subject: PSA

Date: 08.13

Class : TE (V)

Test - II

Marks: 30

Duration: 1hrs

Branch: Electrical Engg

NOTE: Q1 is compulsory

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(2013-14)

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

Subject: Electromagnetic Fields & Waves (EFW)

Date: / 10 / 2013

Marks: 30

Duration: 1-Hr/s

Class: TE (✓)

Test-II

Branch: Electrical Engineering

- Instructions: 1) Question 1<sup>st</sup> 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) Derive the expression for magnetic field intensity due to finite length element. 04M

OR

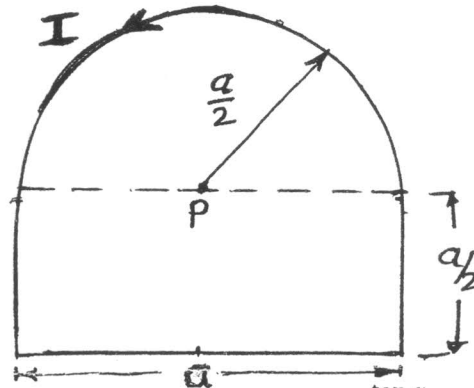
Derive the expression for magnetic field intensity due to infinite long straight filament.

(b) State & explain Biot Savart's law. 03M

(c) Explain the concept of vector magnetic potential. 03M

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

(a) The current is passing through loop as shown in figure. If  $a=600$  mm and  $I=20$  Amp. Find H at P.



(b) Using magnetic boundary condition, show that  $\frac{\tan \alpha_1}{\tan \alpha_2} = \frac{\mu_{r1}}{\mu_{r2}}$

OR

Derive magnetic boundary conditions.

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

(a) Given  $\vec{J} = 10^3 \sin\theta \hat{a}_r$  A/m<sup>2</sup> in spherical co-ordinate, find the current crossing the spherical shell of  $r = 0.02$  m where  $r$  is radius of shell.

(b) In the region  $0 < r < 0.5$  m in cylindrical co-ordinates the current density  $\vec{J} = 4.5 e^{-2r} \hat{a}_z$  A/m<sup>2</sup> and  $J = 0$  elsewhere. Use Ampere's Circuital Law to find H in all regions.



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

Subject: Electrical machine -II

Marks: 30

Date: /10/2013

**TEST-2**

Duration: 1 hr

Class: TE (V)

Branch: Electrical Engg

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**Instructions.**

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

**Q.1 Solve**

1. State function of centrifugal switch and capacitor in 1ph IM. (02)
2. Explain star delta starter for 3 ph induction motor. (04)
3. Explain torque speed characteristics of single phase induction motor. (04)

**Q.2 Solve any one. (10)**

1. Explain speed control method of three phase induction motor.
2. A 230 V, 50 Hz, 4 – pole single phase induction motor has the Following equivalent circuit impedances:

$$R_{1m}=2.2 \text{ ohm} \quad R_{2'}=4.5 \text{ ohm}$$

$$X_{1m}=3.1 \text{ ohm} \quad X_{2'}=2.6 \text{ ohm} \quad X_m=80 \text{ ohm}$$

Friction, wind age and core loss = 40 W

For a slip of 0.03pu, calculate.

- (a) Input current, (b) power factor,  
(c) Developed power, (d) output power, (e) efficiency.

**Q.3 Solve any one (10)**

1. Develop equivalent circuit of 1 ph induction motor.
2. Explain split phase IM with phasor diagram and torque speed characteristics.



ANJUMAN-I-ISLAM'S

(2013-14)

KALSEKAR TECHNICAL CAMPUS, NEW PANVEL

School of Engineering & Technology

Subject: Environmental Studies

Marks: 20

Date: 23/10/2013

Duration: 1hr(2.30 to 3.30)

Div : ME/ET/CO/ELEC(SEM-V)

Unit Test : 2

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 note on Solid Waste Management
- What are the problems faced by children who are either AIDS victims or live in AIDS-affected families?
- What are the problems that a resident of an urban slum faces?
- Explain the requirement of an Environmental Impact Assessment for certain types of projects.

2. Write an essay on the impact of dams on people. What are the usual expected benefits? What are the negative impacts on people? What does the World Commission say on the topic? What do the cases of Narmada and the Three Gorges dams illustrate? [8]

3. Describe the major international efforts to save biodiversity. What has been the role of Indian governments in these efforts? [8]