

Monad University

Village & Post Kastla, Kasmabad, P.O Pilkhuwa - 245101
Tehsil Hapur (U.P), India
E.C Department

Course: Electromagnetic Field Theory/E.M.F.T. (EEC-232)

Assignment: 1

Due date of submission: 10/11/2016

Instructions:

1. Write the response to the assignment in your own handwritings.
2. Submit the response to your H.O.D. within the due date.
3. Write your name, program and enrollment no. clearly at the top of the page.

Q1 (a). Apply Gauss theorem to find the electric field strength at a point near infinite uniform flat sheet of charge.

Q1 (b). Apply Laplace equation to find the potential function outside a charge conducting sphere.

Q2 (a). Explain electric dipole and electric dipole moment with suitable example.

Q2 (b). Define magnetic vector potential. With the help of magnetic vector potential we can find magnetic flux density? If yes elaborate with suitable example (at least two.)

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Course: ENGINEERING MATHEMATICS-III (EEM-236)

Assignment No: 1

Due date of submission: 10.11.2016

Instructions

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2. Submit the responses to your HOD within the due date.
3. Write your Name, Programme and Enrolment No. clearly at the top of this page.

Q.1

a) If $f(z)$ is a harmonic function of z , show that

$$\left\{ \frac{\partial}{\partial x} |f(z)| \right\}^2 + \left\{ \frac{\partial}{\partial y} |f(z)| \right\}^2 = |f'(z)|^2$$

b) Use residue calculus to evaluate the following integral. $\int_0^{2\pi} \frac{1}{5 - 4 \sin \theta} d\theta$

Q.2

a) By contour integration, prove that $\int_0^x \frac{\sin mx}{x} dx = \frac{\pi}{2}$

b) fit a straight line to the following data

X	0	1	2	3	4
Y	1.0	2.9	4.8	6.7	8.6

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Course: Fundamentals of Electronic Devices (EEC-233)

Assignment No: 1

Due date of submission: 10.11.2016

Instructions

4. Write the responses to the assignment in your own handwriting.
5. Submit the responses to your HOD within the due date.
6. Write your Name, Programme and Enrolment No. clearly at the top of this page.

Q.1

- a) Explain conductor, semiconductor and insulator with the help of energy band diagram?
- b) Write the effect of temperature on semiconductor?

Q.2

- a) Explain the biasing of PN junction Diode with diagram?
- b) Explain full wave rectifier with the help of diagram?

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Course: Industrial Sociology (EIS-235)

Assignment No: 1

Due date of submission: 10.11.2016

Instructions

7. Write the responses to the assignment in your own handwriting.
8. Submit the responses to your HOD within the due date.
9. Write your Name, Programme and Enrolment No. clearly at the top of this page.

Q.1

- (a) Discuss concept of industrialization.
- (b) Define the factory System.

Q.2

- (a) Discuss various scope of Industrial Sociology.
- (b) Make a comparison between Industrial Sociology and Economics.

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Course: Digital Electronics (EEC-234)

Assignment No: 1

Due date of submission: 10.11.2016

Instructions

10. Write the responses to the assignment in your own handwriting.
11. Submit the responses to your HOD within the due date.
12. Write your Name, Programme and Enrolment No. clearly at the top of this page.

Q.1

a) Find Octal, Decimal and Hexadecimal equivalents of the following binary numbers;

- (i) $(1111)_2$ (iii) $(101000)_2$ (v) $(11101111)_2$
(ii) $(100010)_2$ (iv) $(1100111)_2$

b) (i) Convert decimal number to binary number;

$(7400)_{10}$

$(9812)_{10}$

(ii) Convert hexadecimal number to its binary equivalent;

$(1DC8)_{16}$

$(2BA5)_{16}$

(iii) Convert a decimal number $(1390)_{10}$ to Binary, Hexa, BCD and Octal.

(iv) Find 1's Complement of;

$(110011)_2$

$(1010.1101)_2$

Q.2

a) (i) What is De-Morgan's Theorem and Duality Theorem?

(ii) Explain AND, OR and NOT gates in detail.

b) (i) Explain the concept of Universal Gates with example.

(ii) Define the following terms;

- Truth Table
- Fan-In
- Fan-Out
- Propagation Delay
- Noise Margin

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Course: Network Analysis and Synthesis (EEC-231)

Assignment No: 1

Due date of submission: 10.11.2016

Instructions

13. Write the responses to the assignment in your own handwriting.
14. Submit the responses to your HOD within the due date.
15. Write your Name, Programme and Enrolment No. clearly at the top of this page.

Q.1

- a) i) State and explain Initial value theorem and Final value theorem.
ii) State Thevenin's theorem and Norton's theorem and also write their limitations.
- b) Find the Laplace transform of the following standard signals;
 1. The unit step function $U(t)$.
 2. The delayed step function $KU(t-a)$
 3. The ramp function $Kr(t)$ or $KtU(t)$
 4. The delayed unit ramp function $r(t-a)$
 5. The unit impulse function $\delta(t)$
 6. The unit doublet function $\delta'(t)$

Q.2

- a) Define Two port network. Draw the equivalent circuit of a 2-Port network in terms of Z-parameters, Y-parameters and H-parameters.
- b) Show that when two 2-Port networks N_1 and N_2 are connected in parallel, the equivalent Y-parameters of the combined network is the sum of Y-parameters of each individual 2-port network.