



MONAD UNIVERSITY

Village & Post Kastla, Kasmabad, P.O Pilkhuwa - 245101

Tehsil Hapur (U.P), India

Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Electromagnetic Field Theory

Course Code: EET-351

Assignment No: 1

Due date of submission: 10.09.2017

Instructions:-

1. Write the responses to the assignment in your own handwriting.
2. Submit the responses to your HOD within the due date.
3. Write your Name, Program and Enrolment No. clearly at the top of this page.

Que.No.1

(a) If $A = 10a_x - 4a_y + 6a_z$ and $B = 2a_x + a_y$, find: (a) the component of A along a_y , (b) the magnitude of $3A - B$, (c) a unit vector along $A + 2B$.

(b) Given point $P(-2,6,3)$ and vector $A = ya_x + (x+z)a_y$, express P and A in cylindrical and spherical coordinates. Evaluate A at P in the Cartesian, cylindrical, and spherical systems.

Que.No.2

(a)

Determine the divergence of these vector fields:

(a) $\mathbf{P} = x^2yz \mathbf{a}_x + xz \mathbf{a}_z$

(b) $\mathbf{Q} = \rho \sin \phi \mathbf{a}_\rho + \rho^2 z \mathbf{a}_\phi + z \cos \phi \mathbf{a}_z$

(c) $\mathbf{T} = \frac{1}{r^2} \cos \theta \mathbf{a}_r + r \sin \theta \cos \phi \mathbf{a}_\theta + \cos \theta \mathbf{a}_\phi$

(b) Determine D at (4,0,3) if there is a point charge $-5\pi \text{ mC}$ at (4,0,0) and a line charge $3\pi \text{ mC/m}$ along the y-axis.



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Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Electrical Machine-II

Course Code: EET-352

Assignment No: 1

Due date of submission: 10.09.2017

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Que.No.1

- (a) Derive the EMF equation of synchronous motor.
- (b) Draw the equivalent circuit of synchronous motor.

Que.No.2

- (a) Why we perform the open circuit test and short circuit test on synchronous motor? Explain in detail.
- (b) What are the necessary conditions for parallel operation of synchronous generators? And explain why we use parallel operation of machines?



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Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Control System

Course Code: EET-353

Assignment No: 1

Due date of submission: 10.09.2017

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Que.No.1

- (a) Write the differences between open and closed loop control systems.
- (b) Explain signal flow graph.

Que.No.2

- (a) Explain steady state error for different types of systems.
- (b) Sketch and explain Phase and Gain margins.



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Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Elements of Power System

Course Code: EET-354

Assignment No: 1

Due date of submission: 10.09.2017

Instructions:-

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Que.No.1

- (a) What do you understand by single line diagram of a power system?
- (b) What are the voltage levels for different components of power system?

Que.No.2

- (a) Compare the advantages of using ac transmission system over dc system?
- (b) Why does the maximum voltage between conductors form the basis of comparison of volume of conductor material required in underground system?



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Tehsil Hapur (U.P), India

Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Engineering & Managerial Economics

Course Code: EET-355

Assignment No: 1

Due date of submission: 10.09.2017

Instructions:-

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Que.No.1

- (a) As you can define Economics according to Smith, Marshall, Robbins, Mehta & Growth centered Economists.
- (b) You can easily differentiate between Micro and Macro Economics.

Que.No.2

- (a) As you are aware about demand, now discuss about its definition, types and law.
- (b) You can draw a figure and define Elasticity of demand with its types & degrees.



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Tehsil Hapur (U.P), India

Electrical Engineering Department

Programme: B. Tech 5th SEM EE

Course: Utilization of Electric Traction

Course Code: EET-356

Assignment No: 1

Due date of submission: 10.09.2017

Instructions:-

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Que.No.1

(a) What do you mean by electric heating?

(b) Discuss the methods of electric heating.

Que.No.2

(a) Discuss

- (i) Resistance Heating
- (ii) Electric arc heating

(b) What do you mean by dielectric heating?