



DEPARTMENT OF MECHANICAL ENGINEERING
MONAD UNIVERSITY, HAPUR

Dated:-10/10/2017

Course: MT-ME-111, Numerical Methods and Computer Programming

Assignment No: 2

Due date of submission: 23/10/2017

Instructions

1. Write the responses to the assignment in your own handwriting & don't copy from other's assignment.
2. Submit the responses to your "**course faculty**" within due date.
3. Write your name, programme, and Enrollment no. clearly at the top of the page.
4. Each question's part carries 5 marks.

Q1.

(a) Solve the equation by Gauss elimination method.

$$2x - y + 3z = 9$$

$$x + y + z = 6$$

$$x - y + z = 2$$

(b) Apply Runge - Kutta method [4th order] to find an approximate value of y when x = 0.2 given that $dy/dx = x + y$ and $y = 1$ when $x = 0$.

Q2.

(a) Apply Gauss-Jordan method to solve the equation :

$$x + y + z = 9,$$

$$2x - 3y + 4z = 13,$$

$$3x + 4y + 5z = 40.$$

(b) Write a program to evaluate $\int_0^6 \frac{dx}{1+x^2}$ using Trapezoidal rule.



DEPARTMENT OF MECHANICAL ENGINEERING
MONAD UNIVERSITY, HAPUR

Course: MT-ME-112, Simulation modeling and analysis

Dated:-10/10/2017

Assignment No: 2

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Q.1

- (a) You are aware about exponential decay. Explain it with the help of example.
- (b) You are familiar about discrete distribution. Explain the various types of discrete distribution with example.

Q.2

- (a) You know about stochastic variable. How does it help in simulation?
- (b) You know about feedback system. What are the differences between open loop system and close loop system?



DEPARTMENT OF MECHANICAL ENGINEERING
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Course: MT-ME-113, Advance Operation Research

Dated:-10/10/2017

Assignment No: 2

Due date of submission: 23/10/2017

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Q.1

- (a) You are aware about game theory. Explain Simplex dominance rules.
- (b) You know about inventory. Explain deterministic and Probabilistic models.

Q.2

- (a) As you are aware about inventory management. Explain ABC analysis.
- (b) You are familiar about queuing theory. Explain the Classification of queuing problems?



DEPARTMENT OF MECHANICAL ENGINEERING
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Dated:-10/10/2017

Course: MT-ME-114, Advanced Computer Aided Design (OE-I)

Assignment No: 2

Due date of submission: 23/10/2017

Instructions

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4. Each question's part carries 5 marks.

Q.1

- (a) I know you are aware with types of surfaces. Briefly explain them with neat diagrams.
- (b) We know about surface modeling and wire frame modeling. Compare between surface modeling and wire frame modeling.

Q.2

- (a) We are familiar with collaborative design. Explain the principles of collaborative design.
- (b) You are aware with surface manipulation techniques. Write the types of surface manipulation techniques.