



MONAD UNIVERSITY HAPUR (UP)

Programme:M.Sc.

Semester: I

Course: MMTH-111 Operations Research

Assignment No: II

Due date of submission: 23.10.2017

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, Programme, and Enrolment No. clearly at the top of the page.

Q.1

(a) Determine an initial basic feasible solution to the following transportation problem using the North-West corner rule:

	D ₁	D ₂	D ₃	D ₄	Availability
O ₁	6	4	1	5	14
O ₂	8	9	2	7	16
O ₃	4	3	6	2	5
Requirement	6	10	15	4	

(b) Obtain an initial basic feasible solution to the following transportation problem using Vogel's approximation method.

	I	II	III	IV	
A	5	1	3	3	34
B	3	3	5	4	15
C	6	4	4	3	12
D	4	-1	4	2	19
	21	25	17	17	

Q2.

(a) Solve the minimal assignment problem whose effectiveness matrix is given by

	A	B	C	D
I	2	3	4	5
II	4	5	6	7
III	7	8	9	8
IV	3	5	8	4

(b) Write the algorithm of Game theory.



MONAD UNIVERSITY HAPUR (UP)

Programme:M.Sc.

Semester: I

Course: **MMTH-112**, Discrete Mathematics

Assignment No: II

Due date of submission: 23.10.2017

Instructions:

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Q.1

- (a) Draw a circuit which realizes (represents) the Boolean algebra can function
$$f = abc' + a'(b + c')$$
- (b) What is don't care condition?

Q2.

- (a) Define isomorphic graphs with examples.
- (b) Define bipartite graph.



MONAD UNIVERSITY HAPUR (UP)

Programme: **M.Sc**

Semester: **I**

Course: **MMTH-113- NUMERICAL ANALYSIS**

Assignment No: **1**

Due date of submission: **23.10.2017**

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 Number clearly at the top of the page.

Q.1

- a) Using Euler's method find the value of $y(0.1)$ given $dy/dx = x+y +xy$; $y(0) = 1$ and step size $h = 0.025$
- b) Use Picard 's method to find $y (0.20)$ given $dy/dx = x-y$ with initial condition $y=1$ when $x=0$

Q.2

- a) Find y in $[0,3]$ by solving the initial value problem $y' = (x - y)/2$, $y(0) = 1$ using Runge-Kutta method of order four with $h = 1/2$ and $1/4$.
- b) The velocity (v) of a particle at a distance (s) from a point on its path is given by following table.

Distance(s) meters	0	10	20	30	40	50	60
Velocity(V) (m/sec)	47	58	64	65	61	52	38

Calculate the time taken to travel the distances of 60m by using Simpson's one-third rule.



MONAD UNIVERSITY HAPUR (UP)

Programme: M.Sc.

Semester: I

Course: MMTH-114, Differential Equations

Assignment No: 2

Due date of submission: 23.10.2017

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 the page.

Q.1.

- (a) Solve partial differential equation $2r + 5s + 2t = 0$.
- (b) Solve partial differential equation $r = a^2t$.

Q.2.

- (a) Reduce the following equation to canonical form

$$\frac{\partial^2 z}{\partial x^2} = x^2 \frac{\partial^2 z}{\partial y^2}.$$

- (b) Solve the following partial differential equation by separation of variables:

$$\frac{\partial^2 z}{\partial x^2} = x^2 \frac{\partial^2 z}{\partial y^2}.$$

- ❖ **Course:** COMPUTER FUNDAMENTAL AND ITS APPLICATIONS
- ❖ **Course code:** MCA-114-4

Submission Date: 11 September 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 ,Programme and enrollment number clearly at the top of the Pages

Q.1

- a) Discuss the characteristics of computer?
- b) As we disused about computer in details. So, explain the types of computer with the help of an example it will help you to learn more.

Q.2

- a) What do you understand by term computer generation? Explain the types of computer generation in detail.
- b) As we know that software and hardware is the important component of computer. So, explain about hardware and software in detail.

Course: PHEY-115, Fundamental of Renewable Energy Technologies

Assignment: 2

Due date of submission: 23/10/2017

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.**

Question 1

(a)As you are aware of solar cooker. Explain the advantages &disadvantages of solar cooker. (b)
Explain calorific value of fuels with common used fuels examples.

Question 2

- a) As you are aware of Photovoltaic Effect .Explain the conditions for Occurrence of Photovoltaic Effect Solar Cell and Efficiency.
- b) Write short note on :
 - i) Organic Loading Rate (OLR).
 - ii) Hydraulic Retention Time (HRT).