



MONAD UNIVERSITY HAPUR (UP)

Programme: **M.Sc.**

Semester: **II**

Course: **MMTH-121 Topology**

Assignment No: **1**

Due date of submission: **12.03.2019**

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 Number clearly at the top of the page.

Q.1

- (a) Define topological space. List four distinct non-trivial topologies for the set $\{1,2,3,4\}$.
- (b) Let $X = \{a, b, c, d, e\}$ and let T be a topology on X given by $T = \{\emptyset, \{b\}, \{b, c\}, \{b, d, e\}, \{b, c, d, e\}, \{a, b, c\}, X\}$. Find all the T -neighbourhoods of
(i) a and (ii) d .

Q.2

- (a) Define continuity in topological space. Let $X = \{1,2,3,4\}$ and $T = \{\emptyset, \{1\}, \{2\}, \{1,2\}, \{2,3,4\}, X\}$. Let $f: X \rightarrow X$ be defined by $f(1) = 2, f(2) = 4, f(3) = 2$ and $f(4) = 3$, then
(i) Show that f is not continuous at 3.
(ii) Show that f is continuous at 4.
- (b) Discuss Pasting lemma.



MONAD UNIVERSITY HAPUR (UP)

Programme: **M.Sc.**

Semester: **II**

Course: **MMTH-122 Differential Geometry**

Assignment No: **1**

Due date of submission: **12.03.19**

Instructions

1. Write the responses to the assignment in your own handwriting.
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Q.1

- a) Find the length of the curve given as the intersection of the surfaces $\frac{x^2}{a^2} - \frac{y^2}{b^2} = 1$,
 $x = \cosh\left(\frac{z}{a}\right)$ from the point $(a, 0, 0)$ to the point (x, y, z) .
- b) Show that the tangent at any point of the curve, whose equations are $x = 3u$, $y = 3u^2$
and $z = 2u^3$ makes a constant angle with the line $y = z - x = 0$.

Q.2

- a) For the curve $x = 3t$, $y = 3t^2$ and $z = 2t^3$, show that any plane meets three points and deduce the equation to the osculating plane at $t = t_1$.
- b) Find the osculating plane at point 'u' on the helix $x = a \cos u$, $y = a \sin u$ and $z = cu$.



MONAD UNIVERSITY, HAPUR (UP)

Programme: M.Sc.

Semester: II

Course: MCA-223 OPERATIONS RESEARCH

Assignment No: 1

Due date of submission: 12.03.19

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

Q.1

- (a) As you are aware of the Operations Research, explain the scope of Operations Research.
- (b) Define linear programming problem with examples.

Q2.

- (a) As you are aware of the transportation problems, write down the names of the transportation methods.
- (b) What are the assignment problems, define with an example?

Title: ENTREPRENEURSHIP DEVELOPMENT

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.

Question: - 1

- a) What do you understand by Entrepreneurship development?
- b) What are the benefits of developing entrepreneurship for yourself and the society?

Question: - 2

- a) Study any one Entrepreneur and explain his success story in your own words.
- b) What are your findings and learning from it ?



MONAD UNIVERSITY, HAPUR (UP)

Programme: **M.Sc.**

Semester: **II**

Course: **MCA-223 Computer Based Numerical Methods and Statistical Techniques**

Assignment No: **1**

Due date of submission: **12.03.2019**

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 Number clearly at the top of the page.

Q.1 (a) What are the difference operators and briefly explain their relationships.

(b) Show that $\sum_{k=0}^{n-1} \Delta^2 f_k = \Delta f_n - \Delta f_0$.

Q2. (a) Find the missing terms from the following data:

x:	1	2	3	4	5	6
f(x):	1	?	9	16	?	36

(b) Find the value of $f(2.5)$ from the following data:

x:	1	2	3	4	5	6
f(x):	1	4	9	16	25	36