

7279

8

- (ii) Text color of the main heading should be purple.

(3600)

29/11/19 (M)

[This question paper contains 8 printed pages.]

Your Roll No.....

11

Sr. No. of Question Paper : 7279

J

Unique Paper Code : 32353301

Name of the Paper : Latex and HTML

Name of the Course : **B.Sc. (Hons.) Mathematics**

Semester : III

Duration : 2 Hours

Maximum Marks : 38

**Instructions for Candidates**

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. **All** questions are compulsory.

1. Fill in the blanks (**Any 4**) : (4×½=2)

- (i) To create a hyperlink in HTML ..... element is used.
- (ii) LaTeX is a ..... language.
- (iii) The command ..... draws a circle with center (2,2) and radius 1.

P.T.O.

- (iv) Boldface text on a webpage is obtained with the ..... element.
- (v) The command to produce name of institute in a beamer presentation is .....

2. Answer any **eight** parts from the following :

(8×2=16)

- (i) Describe three different ways in LaTeX to write in math mode.
- (ii) What is wrong with the following input:  
 $\$theta = pi\$$ , then  $\$ \sin theta = 0\$$ .
- (iii) What is the output of the following command :  
 $\left[\left(\frac{a+b}{x+y}\right)^{1/3}\right]$
- (iv) Make the following equation in LaTeX:  

$$R_\theta = \begin{bmatrix} \cos\theta & -\sin\theta \\ \sin\theta & \cos\theta \end{bmatrix}$$
- (v) Give any two attributes of the img tag in HTML.
- (vi) Typeset a code in LaTeX for the following :

$$\sum_{k=1}^n k = \frac{n(n+1)}{2}$$

- (vi) Write an HTML code to generate the following web page:

**University of Delhi**

**Department of Mathematics**

The list of options for DSE papers offered in B.Sc.(H)-Mathematics:

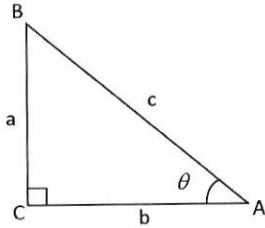
1. Vth Semester
  - a. DSE-1
    - i. Numerical Methods
    - ii. Mathematical Modelling and Graph Theory
  - b. DSE-2
    - i. Mathematical Finance
    - ii. Discrete Mathematics
2. VIth Semester
  - a. DSE-3
    - i. Probability Theory & Statistics
    - ii. Mechanics

Keep the following in mind while writing the code :

- (i) Font face of the text should be Arial.

Slide 2:

## Trigonometric Functions



$$\sin \theta = \frac{a}{c}, \cos \theta = \frac{b}{c}$$

XYZ Trigonometric Functions

Slide 3:

THANK YOU

XYZ Trigonometric Functions

(vii) Give the output of the command

$$\backslash\text{psarc}(1,1)\{3\}\{0\}\{50\}$$
(viii) Write a LaTeX code to produce  $p^q + q^p + z^z$  as the output.

(ix) Write the output of the following HTML code :

$$\langle \text{h3} \rangle \text{ Ordered list with Arabic numerals } \langle \text{/h3} \rangle$$

$$\langle \text{o1 type} = "1" \rangle$$

$$\langle \text{li} \rangle \text{ Analysis } \langle \text{/li} \rangle$$

$$\langle \text{li} \rangle \text{ Algebra } \langle \text{/li} \rangle$$

$$\langle \text{/o1} \rangle$$
(x) Write the postfix notation in standard form:  $x \sin 1 \text{ add } 2 \text{ exp } 1 \text{ x sub div}$ .3. Answer any **five** parts from the following :

(5×4=20)

(i) Write a code in LaTeX for typesetting the following expression:

$$A_n = \begin{bmatrix} n & n^2 & n^3 \\ 3 & 9 & 27 \\ 4 & 16 & 64 \\ 11 & 121 & 1331 \end{bmatrix}$$

P.T.O.

- (ii) Find the errors in the following LaTeX source, write a corrected version and write its output :

```

\documentclass{article}

\usepackage{amsmath}

\title{My Document}

\author{ABC}

\date{today}

\maketitle

\begin{document}

\[\lim_{n \rightarrow \infty} \frac{\sin 2x}{x} \]

\end{document}

```

- (iii) Write the code in LaTeX to plot the functions  $y = \sqrt{x}$  and  $y = x^2$  on the same coordinate system, for  $0 \leq x \leq 1$ . Show the sine function as a solid curve and the cosine function as a dotted curve.

- (iv) Write a code in LaTeX for typesetting the following expression :

$$\begin{aligned}
 e^x &= \frac{x^0}{0!} + \frac{x^1}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots \\
 e^{-1} &= \frac{(-1)^0}{0!} + \frac{(-1)^1}{1!} + \frac{(-1)^2}{2!} + \frac{(-1)^3}{3!} + \dots \\
 &= \frac{1}{0!} - \frac{1}{1!} + \frac{1}{2!} - \frac{1}{3!} + \dots
 \end{aligned}$$

- (v) Write LaTeX code in beamer to prepare the following presentation :

Slide 1:

**Trigonometric Functions**

XYZ

November 29, 2018

XYZ
Trigonometric Functions