This question paper contains 4+2 printed pages]

Roll No. ☐☐☐☐☐☐☐☐☐☐☐

S. No. of Question Paper : 1346

Unique Paper Code : 62353325   I

Name of the Paper : **Latex and HTML**

Name of the Course : **B.A. (Prog.) : Mathematics—SEC**

Semester : **III**

Duration : **2 Hours**   Maximum Marks : **38**

(Write your Roll No. on the top immediately on receipt of this question paper.)

All questions are compulsory.

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

    (*i*) .... tells LaTeX to start a new paragraph.

    (*ii*) .... command adds name of the author to a LaTeX document.

    (*iii*) Matrices can be created using .... environment in LaTeX.

    (*iv*) Enumerated list are created using .... element in HTML.

P.T.O.

(2)

(v) The .... element is used to include images to a web page.

2. Answer any *eight* parts from the following : 8×2=16

(i) Describe *three* different ways in LaTeX to write in math mode.

(ii) Write the LaTeX command for the symbols :

$$\alpha, \pi, \Sigma, \geq, \infty.$$

(iii) What is the output of the command :

$$\$\$x = \backslash frac\{-b \backslash pm \backslash sqrt\{b^2 - 4ac\}\}\{2a\}\$\$$$

(iv) Write the LaTeX command to typeset :

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix}.$$

(v) Correct the following input :

⟨*img* "smiley.gif" *alt* = *smileyface height* = 42 *width* = 42⟩

(vi) What are delimiters ? Explain with an example.

(vii) Write the output of the command :

\pswedge(2,2){1.5}{0}{60}.

(*viii*) Correct the LaTeX code :

$$(\backslash Frac\{a+b\}c+d)\hat{}1/3.$$

(*ix*) Name the basic elements needed to create a simple web page.

(*x*) Write the postfix notation in standard form :

x sin 1 add 2 exp 1 x sub div.

3. Answer any *five* questions from the following : 5×4=20

(*i*) Draw an ellipse with a shaded sector.

(*ii*) Write LaTeX code to typeset the following :

Let $x = (x_1, x_2, ..., x_n)$ where x_i are non-negative real numbers. Set :

$$M_r(x) = \left(\frac{x_1^r + x_2^r + ... + x_n^r}{n} \right)^{1/r}, \quad r \in R\backslash\{0\}$$

and

$$M_0(x) = (x_1 x_2 ...... x_n)^{1/n}.$$

(iii) Find errors in the following code and write the corrected version and its output :

\Documentclass{article}

\begin{document}

\begin{enumerate}

\item Suppose that x = 137.

\item If theta = pi, then sin theta = 0.

\item The curve y = sqrt{x}, where x >= 0, is concave downward.

\end{document}

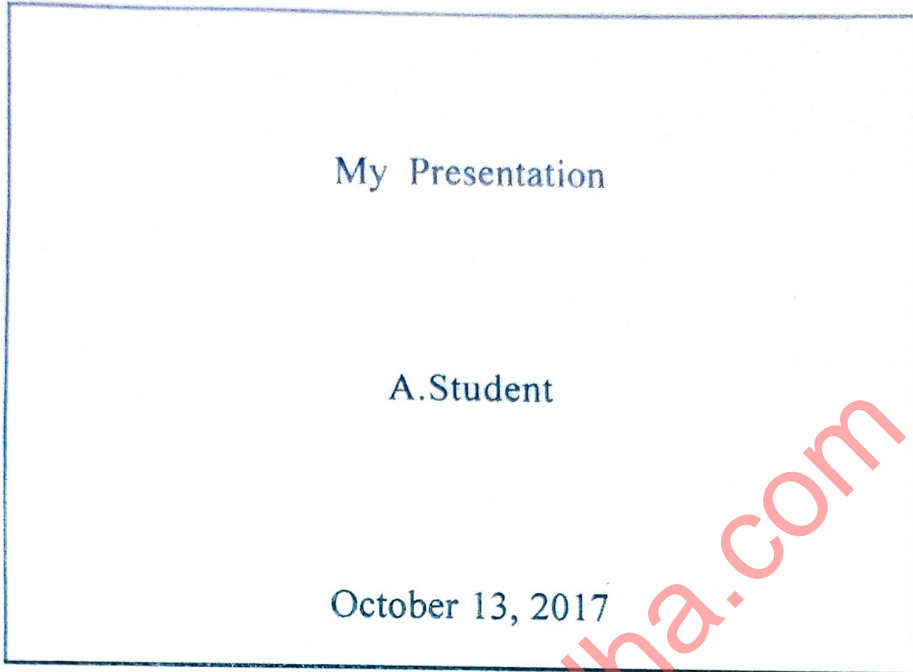(iv) Write a code in LaTeX to typeset the following :

Define,

$$F_j(u) = \lim_{t \to \infty} F_j(t, u), \qquad j = 1, 2, \ldots\ldots t, x \geq 0$$
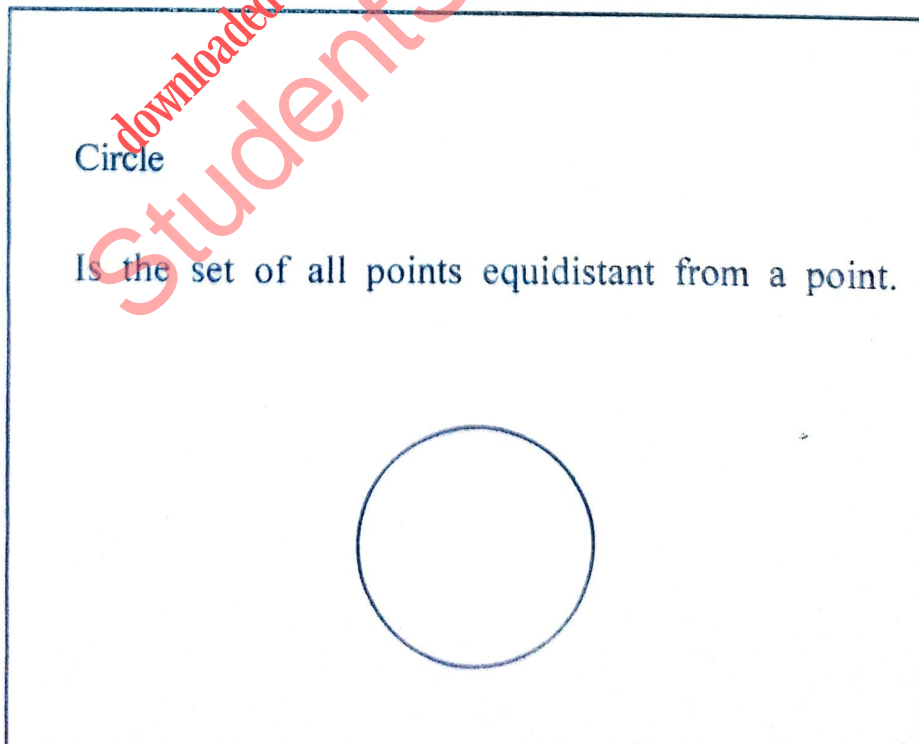
Then the *Kolmogorov forward equation* is given by,

$$r_j \frac{dF_j(u)}{du} = \lambda_{j-1} F_{j-1}(u) - (\lambda_j + \mu_j) F_j(u) + \mu_{j+1} F_{j+1}(u). \quad (1)$$

(v)   Create the following presentation in LaTeX :

Slide 1

My Presentation

A.Student

October 13, 2017

Slide 2

Circle

Is the set of all points equidistant from a point.