CODE	COURSE TITLE
18MSUSP01	LATEX

Category	CIA	ESE	L	T	P	Credit
SBS-Practical	40	60	-	-	45	3

List of Practicals

1) Write a passage and make footnote, margin note and end notes using LaTex.
2) Draw the various table structure for the end semester results.
3) Type any $n \times n$ matrix when $n = 1, 2, 3, 4$.
4) Type your Bio-Data [Affix your photocopy at the right corner]
5) Draw the graph of $y = x^2$, $y = cos\ x$, $y = sin\ x$.
6) Type the following expressions using Latex

$(i)(x + y).(x - y) = x^2 - y^2$

$(ii)\ (x - y)^2 = x^2 - 2xy + y^2$

$(iii)(x + a)^n = x^n + nC_1x^{n-1}\ a + nC_2x^{n-2}a^2 + \ldots + nC_rx^{n-r}a_r.$

$(iv)\ e^x = 1 + \dfrac{x}{1!} + \dfrac{x^2}{2!} + \dfrac{x^3}{3!} + \ldots + \dfrac{x^r}{r!}$

$(v)\ log(1 + x) = x - \dfrac{x^2}{2!} + \dfrac{x^3}{3!} - \cdots + (-1)^n \dfrac{x^n}{n!} + \cdots$

7) Type the following expressions:

$(i)\ x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$(ii)\ lim_{x \to 0} \dfrac{sin\ x}{x} = 1$

$(iii)\ \Delta x,\ \Delta^2 y,\ \nabla x,\ \nabla^2 y$

$(iv)\dfrac{f(x + \Delta x) - f(x)}{\Delta x}$

8) Create a balance sheet as on current date.
9) Write an expression for nested roots.
10) Draw a simple RLC circuit subject to a voltage input.
11) Express the following equations:

$(i)\dfrac{dy}{dx},\dfrac{d^2 y}{dx^2}, Dy, y', \dot{y},\ \ddot{y}$

$(ii)\dfrac{\partial w}{\partial x},\dfrac{\partial^2 w}{\partial t^2},\dfrac{\partial^2 w}{\partial x \partial y}$

$$(iii) x^2 \frac{d^2 y}{dx^2} + 4x \frac{dy}{dx} + 2y = x \ \log x$$

$$(iv) \frac{\partial^2 z}{\partial x^2} - 5z \frac{\partial z}{\partial x} + 6z = 12x$$

12) Express the following integrals:

$$(i) \Gamma(x) = \int_0^t e^{-t} t^{x-1} dt, \ \ Re(x) > 0$$

$$(ii) \iint_s F(x, y) dxdy \quad and \quad \iiint_v F(x, y, z) dxdydz$$

$$(iii) \oint F. dr = \iint_s (\Delta \times F) ds$$

$$(iv) x^n J_n(x) = \int x^n J_{n-1}(x) dx$$

13) Type the following

$$(i) \ \sum |x_i y_i| \leq \left(\sum |x_i|^p \right)^{\frac{1}{p}} \left(\sum |y_i|^q \right)^{\frac{1}{q}}$$
$$(ii) \ \sum_{n=1}^{\infty} x_i$$
$$(iii) \ (A \cup B)' = A' \cap B'$$
$$(iv) \prod_{j=0}^{J} K_j$$
$$(v) \ |u.v| \leq || \ u|| \ ||v||$$

14) Construct a circle with given centre and radius.
15) Prepare a model question paper as per your department pattern.
16) Type a given article.
17) Make your department conference invitation using Latex.
18) Make a PowerPoint presentation of yourown topic of interest.