

SEC-1 (LATEX and HTML)

Answer the following Multiple-Choice Questions

1.

$$\frac{\sin^2 y \cos^2 y}{1 + \sin^2 y}$$

- a. `y sin 2 exp y cos 2 exp mul div 1 y sin 2 exp add`
- b. `y sin exp 2 y cos exp 2 mul 1 y sin exp 2 add div`
- c. `sin y 2 exp cos y 2 exp mul 1 y sin 2 exp add div`
- d. `y sin 2 exp y cos 2 exp mul 1 y sin 2 exp add div`

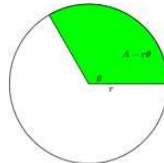
Ans- D

2. To use PSTricks, we must include _____ command in the preamble of LATEX document.

- a. `\usepackage{pspicture}`
- b. `\usepackage{pstrick}`
- c. `\usepackage{pstricks}`
- d. `\usepackage{pspictures}`

Ans- C

3. Choose the necessary commands required for the following graph

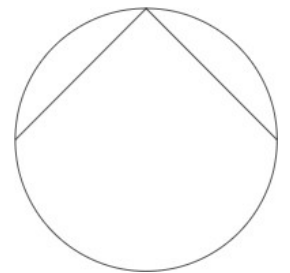
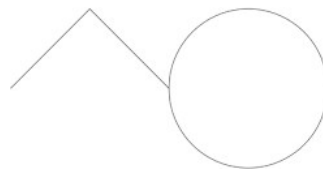
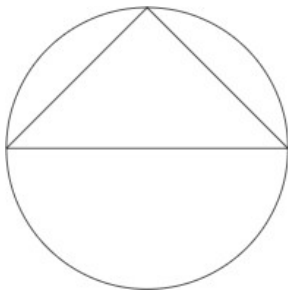


- a. `\usepackage{pstricks}`
- b. `\pswedge[fillstyle=solid,fillcolor=green](2,2){3}{0}{120}`
- c. `\usepackage{psplot}`
- d. `\wedge[fillstyle=solid,fillcolor=green](2,2){3}{0}{120}`
- e. `\pscircle(2,2){3}`
- f. `\usepackage{pspicture}`

Ans- A, B, C

4. Choose the output for following input command:

```
\documentclass{article}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}
\pscircle(0,0){4}
\psline(-4,0)(0,4)(4,0)
\end{pspicture}
\end{document}
```



Ans -



5. For complex pictures, LATEX picture environment is better than PSTricks.

- a. True
- b. False

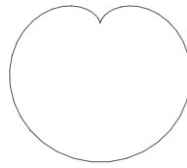
Ans- A

6. `\circle*` command draws _____.

- a. Dots
- b. Colored circles.
- c. Circles
- d. filled circles

Ans- D

7. Choose the correct option for plotting of the following graph



```
\documentclass{article}
\usepackage{pst-plot}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}
\psplot{0}{360}
{t sin 1 t cos sub mul
t cos 1 t cos sub mul}
\end{pspicture}
\end{document}
```

a.

```
\documentclass{article}
\usepackage{pst-plot}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}
\parametricplot{0}{360}
{t sin 1 t cos sub mul
t cos 1 t cos sub mul}
\end{pspicture}
\end{document}
```

b.

```
\documentclass{article}
\usepackage{pst-plot}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}
\psparametricplot{0}{360}
{t sin 1 t cos sub mul
t cos 1 t cos sub mul}
\end{pspicture}
\end{document}
```

c.

```
\documentclass{article}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}
\parametricplot{0}{360}
{t sin 1 t cos sub mul
t cos 1 t cos sub mul}
\end{pspicture}
\end{document}
```

d.

Ans-B

8. Is latex case sensitive

a. True

b. False

Ans- A

9. How many error are the in this code

```
\Documentclass{article}
\usepackage[utf8]{inputenc}
\title{test}
\author{sharmaabhi.98490 }
\date{October 2020}
\begin{document}
\begin{enumerate}
  \item 1
\end{enumerate}
\maketitle
\section{Introduction}
\end{document}
```

- a. 1 b. 2 c. 3 d. 5

Ans- B

10. To perform geometric transformations, we use _____ package.

- a. Pspicture
- b. Picture
- c. Graphics
- d. pst-plot

Ans- C

Answer the following Questions

1. $\lim_{Q \rightarrow 0} \frac{\sin Q}{Q} = 1$

Ans - `\documentclass{article}`

`\title{Practical 1}`

`\begin{document}`

`\item $\lim_{\theta \rightarrow 0} \frac{\sin \theta}{\theta} = 1$`

`\end{document}`

2. Find the errors in the following source. Write a corrected version along its output

`\Documentclass{article}`

`\usepackage{graphicx}`

`\begin{document}`

`\begin{enumerate}`

`\item`

`\begin{picture}(250,100)`

`\put(25,20){\circle{40}}`

`\end{picture}`

`\end{document}`

Ans-

`\documentclass{article}`

`\usepackage{graphicx}`

`\begin{document}`

`\begin{enumerate}`

`\item`

`\begin{picture}(250,100)`

`\put(25,20){\circle{40}}`

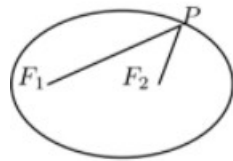
`\end{picture}`

`\end{enumerate}`

`\end{document}`



3. Write the code in Latex for typesetting



$$F_1P + F_2P = \text{Constant}$$

Ans-

```
\documentclass{article}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}(5,5)
\psclip{\psellipse(2,2)(1.5,1)}
\endpsclip
\put(0.6,2){$F_1$}
\put(2.0,2){$F_2$}
\put(2.8,2.8){$P$}
\psline(1,2)(2.8,2.8)
\psline(2.5,2)(2.8,2.8)
\put(5,3){$F_1P+F_2P=Constant$}
\end{pspicture}
\end{document}
```

4. Give the command in latex to obtain

The general solution to the differential equation

$$y'' - 3y' + 2y = 0$$

is

$$y = C_1 e^x + C_2 e^{2x}.$$

Ans

```
\documentclass{article}
```

```
\title{Practical 2}
```

```
\begin{document}
```

The general solution to the differential equation

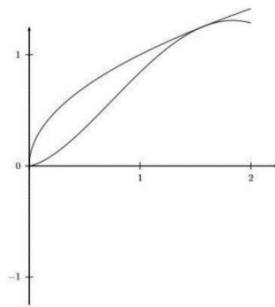
$$y'' - 3y' + 2y = 0$$

is

$$y = C_1 e^x + C_2 e^{2x}.$$

```
\end{document}
```

5. Write the command in latex for the graph



```
Ans \documentclass{article}
```

```
\usepackage{pstricks}
```

```
\usepackage{pst-plot}
```

```
\begin{document}
```

```
\begin{pspicture}(-0.5,-0.5)(5,5.5)
```

```
\psset{xunit=4cm,yunit=4cm}
```

```
\psaxes{->}{0,0}(0,-1.25)(2.25,1.25)
```

```
\psplot[plotpoints=2500]{0}{2}{x sqrt 1 div x RadtoDeg sin mul}
```

```
\psplot[plotpoints=500]{0}{2}{x sqrt}
```

```
\psplot[plotpoints=500]{0}{2}{x sqrt sub}
```

```
\end{pspicture}
```

```
\end{document}
```

6. What will be the possible output of the latex command-?

```
\documentclass{article}
\usepackage{pstricks}
\begin{document}
\begin{picture}(300,30)
\put(15,10){\line(1,0){50}}
\put(65,10){\line(0,1){50}}
\put(65,60){\line(-1,-1){50}}
\put(62,10){\line(0,1){5}}
\put(62,15){\line(1,0){3}}
\put(50,25){\circle{29}}
\end{picture}
\end{document}
```

Ans



7. Find the error in the code

```
\documentclass{article}
\title{Practical 4}
\begin{document}
1+2&=3\\
4+5+6&=7+8\\
9+10+11+12&=13+14+15\\
16+17+18+19+20&=21+22+23+24
25+26+27+28+29+30&=31+32+33+34+35
\end{eqnarray*}
\end{document}
```

Ans

```
\documentclass{article}
\title{Practical 4}
\begin{document}
\begin{eqnarray*}
1+2&=3\\
4+5+6&=7+8\\
9+10+11+12&=13+14+15\\
16+17+18+19+20&=21+22+23+24\\
25+26+27+28+29+30&=31+32+33+34+35
\end{eqnarray*}
\end{document}
```


8. Write the code for

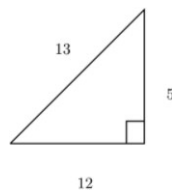
$$\begin{vmatrix} i & j & k \\ a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \end{vmatrix} = \begin{vmatrix} a_2 & a_3 \\ b_2 & b_3 \end{vmatrix} i - \begin{vmatrix} a_1 & a_3 \\ b_1 & b_3 \end{vmatrix} j + \begin{vmatrix} a_1 & a_2 \\ b_1 & b_2 \end{vmatrix} k$$

Ans-

```
\documentclass{article}

\title{Practical 3}
\begin{document}
\item $\left| \begin{array}{ccc} i & j & k \\ a_1 & a_2 & a_3 \\ b_1 & b_2 & b_3 \end{array} \right| = \left| \begin{array}{cc} a_2 & a_3 \\ b_2 & b_3 \end{array} \right| i - \left| \begin{array}{cc} a_1 & a_3 \\ b_1 & b_3 \end{array} \right| j + \left| \begin{array}{cc} a_1 & a_2 \\ b_1 & b_2 \end{array} \right| k$
\end{document}
```

9. Write the code of



Ans-

```
\documentclass{article}
\usepackage{pstricks}
\begin{document}
\begin{pspicture}(4,4)
\psline(1,1)(4,1)(4,4)(1,1)
\psline(3.6,1)(3.6,1.5)(4,1.5)
\end{pspicture}
\end{document}
```

```

\put(2.5,0){$12$}
\put(4.5,2){$5$}
\put(2,3){$13$}
\end{pspicture}

```

10. Write a Latex code in beamer to prepare the first slide of presentation with heading ‘**definition**’ And body “**Pythagoras Theorem states that in any right-angled triangle the square of the hypotenuse is equal to the sum of the squares of base and perpendicular**”

Ans-

```

\documentclass{beamer}
\usepackage{pstricks}
\begin{document}
\begin{frame}{Pythagoras Theorem} Welcome to Beamer Presentation
\end{frame}
\begin{frame}{Definition} Pythagoras Theorem states that in any right
angled triangle the square of the hypotenuse is equal to the sum of the
squares of base and perpendicular
\end{frame}
\end{document}

```

11. What is wrong with the following HTML construction:

```
<p> This is <strong> <em> bold and italics </em> </strong>
```

Ans-

```
<p> This is <strong> <em> bold and italics </em> </strong> </p>
```

12. What is wrong with the following input:

```
<p> Also checkout the
<a href = <u>http://www.du.ac.in/</u> University of Delhi </a> </p>
```

Ans-

```
<p> Also checkout the
```

```
<a href = "http://www.du.ac.in/"> University of Delhi </a> </p>
```