



VIVEKANANDA COLLEGE

(Residential & Autonomous – A Gurukula Institute of Life – Training)

College with Potential for Excellence

Re-accredited with “A” Grade (CGPA 3.59 out of 4.00) by NAAC

Affiliated to Madurai Kamaraj University, Managed by Sri Ramakrishna Tapovanam,
Tirupparaiturai, Trichy

Tiruvedakam West, Madurai District-625 234, Tamil Nadu

DBT STAR COLLEGE SCHEME

Department of Biotechnology, Government of India, New Delhi



Chairman & Principal : Dr. T. Venkatesan, M. Com., B.Ed., M.Phil., PGDCA., Ph.D

Coordinator & Member Secretary : Dr. G. Ponraj, M.Sc., M.Phil., Ph.D

LATEX

Contents

S. No	Name of the program	Page no.
1	Different Type of Alignments	2
2	Font Size and Font Style	5
3	Create a Title Page	7
4	Letter For Applying Job	9
5	Bio-Data	12
6	Table Structure	14
7	Mathematical Equation	16
8	Mathematical Expressions(Derivatives, Integration, Inequalities)	18
9	Type a Bibliography (Or) Reference in Latex.	21
10	Generate different types of Mathematical Symbols and Nomenclature in Latex.	23
11	Draw any picture and insert in LateX file.	25
12	Type of given Article.	27

Program – 1

Different Type of Alignments

Aim :

To Create the Latex document using different types of alignment.

Procedure :

- Open the latex software and create the new file.
- The new file document starts on default statement (Eg./document{article}).
- Start the document using the code /begin{document}and close the document using /end{document}.
- Start the typing the text in the centre using \centering code.
- The text align \ragged right, \justifying, \raggedleft, \Justifying, \Raggedleft, \Raggedright.
- Finally save and run the document we get a output. Suppose we have error in the document, change the mistake of the document.

Coding:

```
\documentclass{article}
\usepackage[English]{babel}
\usepackage{ragged2e}
\usepackage{blindtext}
\begin{document}
\setlength{h\size}{0.9\hsize}%emphasizeeffects
```

```

\section{centre}

\centering{\bf Differential Equation}\\

\subsection{Justifying}

\Justifying \blindtext[1]\\

\subsection{raggedright}

\raggedright \blindtext[2]\\

\subsection{Ragged Right}

\Ragged Right \blindtext[2]\\

\subsection{raggedleft}

\raggedleft \blindtext[2]\\

\subsection{Ragged Left}

\Ragged Left \blindtext[2]

\end{document}

```

Output:

1. Centering

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree & Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

1.1 Justifying

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree &

Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

1.2 ragged right

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree & Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

1.3 Ragged Right

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree & Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

1.4 ragged left

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree & Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

1.5 Ragged left

Admission is offered to the qualifying candidates in M.Sc (2 year), Masters in Economics (Two Years), Joint M.Sc.-Ph.D., M.Sc.-Ph.D. Dual Degree & other Post-Bachelor's Degree & Integrated Ph.D courses. The entrance exam of IIT JAM is conducted by various IITs on rotational basis. Besides IITs, the scores of IIT JAM 2023 can be also used in various renowned institutions like NITs, IISc Bangalore, IISERs, etc. for admission into their PG courses. Through this article, we have provided complete details about IIT JAM 2023 application form, exam dates, eligibility, pattern, syllabus, etc.

Program – 2

Create a Document using Different Font Size and Font Style

Aim:

To Create a Latex document using different font size and font style.

Procedure:

- Open the latex software and create the new file.
- The new file document starts on the default statements. {ex.\document {article}}.
- Start and close the document using the coding \begin{document} and \end{document}.
- Start the typing the text in different font size using the different type of fontsize coding.
- We got small font size using \tiny coding set italic, huge and large fontsize using \it, \huge and \large coding.
- Finally save and run the document we get a output.

Coding:

```
\documentclass[12pt]{article}
\usepackage[english]{babel}
\usepackage{ragged2e}
\begin{document}
\section{Font Size}
```

```
\Mathematics\\  
\tiny{Mathematics}\  
\it{Mathematics}\  
{\emph Mathematics}\  
\large{Mathematics}\  
\Large{Mathematics}\  
\huge{Mathematics}\  
\Huge{Mathematics}\  
{\bf Mathematics}  
\end{document}
```

Output:-

1. Font Size

Mathematics

Mathematics

Mathematics

Mathematics

Mathematics

Mathematics

Mathematics

Mathematics

Mathematics

Program – 3

Create a Title Page in Latex

Aim:

To Create a title page in Latex

Procedure:

- Open the latex software and create the new file.
- The new file document starts on the default statements.
[`{ex.\documentstyle{article}}`].
- Start and close the document using the coding `\begin{document}` and `\end{document}`.
- Type the document title on centre using `\begin{center}` and `\end{center}`
- We can see the letters in bold using `\bf` coding.
- Type a name and using the math symbols use the dollar symbols in both two sides in symbols.
- Using `\vspace` coding we get clear alignmet.
- Finally save and run the document we get a output.

Coding:

```
\documentclass[12pt]{article}

\begin{document}

\large{\bf Differential Equations And Its Applications}

\begin{center}{\bf Dr.R.Kalaivanan  $\$^{\{a\}}\$},$ 
```



```
{\bf R.Karthikeyan $^{b}$},{\bf V.T.Praveenkanth $^{c}$}\\  
\vspace{0.15in}{\footnotesize $^{a}$ Vivekananda College,Madurai}\\  
\vspace{0.15in}{\footnotesize $^{b}$ SVN College,Madurai}\\  
\vspace{0.15in}{\footnotesize $^{c}$ PMT College,Madurai}\\  
\vspace{0.15in}{\footnotesize $^{*}$ email:keyanrjkarthi@gmail.com}\\  
\end{center}  
\end{document}
```

Output:

Differential Equations And Its Applications

Dr.R.Kalaivanan^a,R.Karthikeyan^b,V.T.Praveenkanth^c

Vivekananda College , Madurai ^a

SVN College,Madurai ^b

PMT College,Madurai ^c

***e-mail:keyanrjkarthi@gmail.com**

Program -4

Type a Letter for Applying Job

Aim:

To Type a Letter for applying a job in Latex

Procedure:

- Open the latex software and create the new file.
- The new file document starts on the default statements.
{ex.\documentstyle{letter}}.
- Start and close the document using the coding \begin{document} and \end{document}.
- To print a output screen in address on rightside using coding \address{...}.
- Start the letter using \begin{letter} and close the letter using \end{letter}.
- To write a letter content using \opening type a content body of the letter and closing the content using \closing.
- Your's signature to print using \signature{...}.
- Finally save and run the document we get a output.

Coding:

```
\documentclass[12pt]{letter}
```

```
\usepackage{hyperref}
```

```
\signature{R.KARTHIKEYAN}
```

```
\address{S\O G.Rasu \\\ West Street \\\ T.Mettupatti \\\ Madurai \\\}
```

```
\begin{document}
```

```
\begin{letter}{ {\bf \large To} \\ The Manager \\ CTS \\ Chennai }
```

```
\opening{ {\bf \large Sir or Madam: } }
```

Good morning sir. I am seen that your advertisement to the vacancy for a post of general manager in your company. I would like to offer my candidature for the same.\

I hope that I would get an opportunity to work in your company. If appointed I shall strive for excellence through my selfless service in your company.\

Thank you for the consideration.\

I look forward to your reply.

```
\closing{Your's faithfully}
```

```
\end{letter}
```

```
\end{document}
```

Output:

R. Karthikeyan

s/o Rasu.G

West Street

T.Mettupatti

Madurai

To

The Manager

CTS

Chennai

Sir or Madam:

Good morning sir. I am seen that your advertisement to the vacancy for a post of general manager in your company. I would like to offer my candidature for the same.

I hope that I would get an opportunity to work in your company. If appointed I shall strive for excellence through my selfless service in your company.

Thank you for the consideration.

I look forward to your reply.

Your's faithfully

S. KARTHIKEYAN

T.

Program -5

Type Your Own Bio-Data

Aim:

To Create a Latex document type your Bio-Data.

Procedure:

- Open the latex software and create the new file.
- The new file document starts on the default statements.
{ex.\documentclass{article}}.
- Start and close the document using the coding \begin{document} and \end{document}.
- To create the Bio-Data the title print to center using
- \begin{center} and \end{center}.
- Then type a Name,Parent's Name,Address,etc;
- The semicolon print same point of vertical to use \tab and space.
- Finally save and run the document we get a output.

Coding:

```
\documentclass[12pt]{article}

\newcommand\tab[1][1cm]{\hspace*{#1}}

\begin{document}

\begin{center}

Bio- Data

\end{center}

Name \tab \tab \tab \tab \ : V.T.Praveen kanth \\\
```

```
Father's Name \tab \tab \ \ \ \ : R.V.Thirumaran \\  
Mother's Name \tab \tab \ \ \ : T.Meenalochini \\  
Address \tab \tab \ tab \tab \ \ :328,VOC street,Vadugapatti.\  
Educational Qualification \ \ : Pursuing Graduate in B.Sc., Maths\  
Nationality \tab \tab \tab \tab \ \ : Indian \\  
Marital Status \tab \tab \ \ \ : Single \\  
Special Skills \tab \tab \ \ \ : Typewriting  
\begin{center}  
!THANK YOU!  
\end{center}  
\end{document}
```

Output:

BIO-DATA

Name	: V.T.Praveenkanth
Father's Name	: R.V.Thirumaran
Mother's Name	: T.Meenalochini
Address	: 328/8 VOC Street,Vadugapatti
Educational Qualification	: Pursuing in B.Sc., Maths
Nationality	: Indian
Marital Status	: Single
Special Skills	: Typewriting

Program -6

Draw a Table Structure

Aim:

To Create a Latex document to Draw a Table Structure.

Procedure:

- Open the latex software and create the new file.
- The new file document starts on the default statements.
{ex.\documentclass{article}}.
- Start and close the document using the coding `\begin{document}` and `\end{document}`.
- To create a tabular using `\begin{tabular}` and `\end{tabular}`.
- To print a column line of table using `{|c|c|c|c|c|}` the coding
- To print row line using `\hline` coding.To print a values on table using `&(value)` then close the table using the coding `\end{tabular}`.
- Finally save and run the document we get a output.

Coding:

```
\documentclass[12pt]{article}

\begin{document}

\centering{\bf III B.Sc.,Maths Marks List}

\begin{center}

\begin{tabular}{|c|c|c|c|c|}
```

\hrule

{\bf Name} &{\bf 05CT41} &{\bf 05CT42} &{\bf 05AT41} &{\bf 05AP42}

\hrule

{\bf Karthikeyan.R} & 90 & 96 & 89 & 95 \\\

\hrule

{\bf Praveenkanth.V.T} & 78 & 89 & 89 & 97 \\\

\hrule

{\bf Manikandan.D} & 90 & 94 & 89 & 95 \\\

\hrule

{\bf Chellapandi.M} & 78 & 89 & 89 & 95 \\\

\hrule

\end{document}

\end{center}

\end{document}

Output:

III B.Sc.,Maths Marks List

Name	05CT41	05CT42	05AT41	05AP42
Karthikeyan.R	90	96	89	95
Praveenkanth.V.T	78	89	89	97
Manikandan.D	90	94	89	95
Chellapandi.M	78	89	89	95

Program - 7

Type a Mathematical Equation

Aim:

To create a Latex Document to type a given Mathematical equation.

Procedure:

- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- To create the maths equation start `\begin{eqnarray}` and
Close with the coding `\end{{eqnarray}}`
- To print a equation is center using `&&` symbols
- To print a dividing equation using `\frac` coding ,squaring using
`Cap(cat)(^)` symbol and print the using `\partial` coding
- Finally Save and run the document get a output.

Coding:

```
\documentclass[12pt]{article}

\begin{document}

\centering{\bf PARTIAL DIFFERENTIAL EQUATION}

\begin{eqnarray}

&& \frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} = 0 \end{eqnarray}
```

```

&& u\frac{\partial^3 u}{\partial x \partial y^2}
+v\frac{\partial^3 u}{\partial y^3}
+\frac{\partial u}{\partial x}\frac{\partial^2 u}{\partial y^2}
-\frac{\partial u}{\partial y}
\frac{\partial^2 u}{\partial x }
\frac{\partial^2 u}{\partial x \partial y}=0
\end{eqnarray}
\end{document}

```

Output:

PARTIAL DIFFERENTIAL EQUATION

$$\frac{\partial u}{\partial x} + \frac{\partial v}{\partial y} = 0$$

(1)

$$u \frac{\partial^3 y}{\partial x \partial y^2} + v \frac{\partial^3 y}{\partial y^3} + \frac{\partial u \partial^2 u}{\partial x \partial y^2} - \frac{\partial u}{\partial y} \frac{\partial^2 u}{\partial x \partial y} = 0$$

(2)

Program - 8

Type All Mathematical Expressions

Aim:

To create a Latex Document to type a given Mathematical expression of Differentiation, Integration and Trigonometry.

Procedure:

- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- To create the maths equation start `\begin{eqnarray}` and
Close with the coding `\end{eqnarray}`
- To print a equation is center using `&&` symbols
- Finally Save and run the document get a output.

Coding:

```
\documentclass[12pt]{article}

\begin{document}

\begin{center}

{\bf \underline Maths Equations }

\end{center}

\begin{center}
```

{\bf Differential Equations}

\end{center}

\begin{eqnarray}

&& Pp+Qq=Rr \\\

&& \frac{dx}{dy}+2\frac{d^2y}{dx^2}+2y=0 \\\

\end{eqnarray}

\begin{center}

{\bf Integral Expressions}

\end{center}

\begin{eqnarray}

&& \int{\lim_a^b{f(a) dx}=0, a \in I

\end{eqnarray}

\begin{center}

{\bf Algebraic Expressions}

\end{center}

\begin{eqnarray}

&& (a+b)^2=a^2+2ab+b^2 \\\

&& \sqrt{x\sqrt{x^2\sqrt{x}}} \\\

&& \lim_{n \to \infty} \frac{f(x)}{g(x)}=0

\end{eqnarray}

\begin{center}

{\bf Trigonometric Expressions}

```

\end{center}
\begin{eqnarray}
&& \cos^2 \theta + \sin^2 \theta = 1 \\
&& \cos^2 \phi = 1 - 2\sin \phi
\end{eqnarray}
\end{document}

```

Output:

Maths Equations

Differential Equations

$$Pp + Qq = Rr \tag{1}$$

$$\frac{dx}{dy} + 2 \frac{d^2y}{dx^2} + 2y = 0 \tag{2}$$

Integral Expressions

$$\int_a^b f(a) dx = 0, a \in I \tag{3}$$

Algebraic Expressions

$$(a + b)^2 = a^2 + 2ab + b^2 \tag{4}$$

$$\sqrt{x\sqrt{x^2\sqrt{x}}} \tag{5}$$

$$\lim_{n \rightarrow \infty} \frac{fx}{g(x)} = 0 \tag{6}$$

Trigonometric Expressions

$$\cos^2 \theta + \sin^2 \theta = 1 \tag{7}$$

$$\cos 2\phi = 1 - 2 \sin \phi \tag{8}$$

Program - 9

Type a Bibliography (Or) Reference in Latex.

Aim:

To create a Latex Document to type a given Bibliography (Or) Reference in Latex.

Procedure:

- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- Use bibliography coding `\begin{thebibliography}{9}`
- To print a bibliography
- Finally Save and run the document get a output.

Coding:

```
\documentstyle[12pt]{article}
\textheight 8.5in \textwidth 6.0in
\leftmargin 0.10in \rightmargin 0.10in
\topmargin -.3in \headsep .5in
\evensidemargin 0.0in \oddsidemargin 0.4in
\renewcommand*\labelenumi {[\theenumi]}
\begin{document}
\parskip=0.05in
```

```
\baselineskip =0.3in
```

```
\begin{thebibliography}{9}
```

```
\bibitem{texbook}
```

Donald E. Knuth (1986) *The TeX Book*, Addison-Wesley Professional.

```
\bibitem{lampport94}
```

Leslie Lamport (1994) *LaTeX: a document preparation system*, Addison Wesley, Massachusetts, 2nd ed.

```
\end{thebibliography}
```

```
\end{document}
```

Output:

References

[1] Donald E. Knuth (1986) *The TEX Book*, Addison-Wesley Professional.

[2] Leslie Lamport (1994) *LATEX: a document preparation system*, Addison Wesley, Massachusetts, 2nd ed.

Program - 10

Generate different types of Mathematical Symbols and Nomenclature in Latex.

Aim:

To create a Latex Document to type a Generate different types of Mathematical Symbols and Nomenclature in Latex.

Procedure:

- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- Use `\makenomenclature` code for nomenclatures.
- And also use tabbing coding and type some mathematical symbol in latex code.
- To print a symbols in nomenclature.
- Finally Save and run the document get a output.

Coding:

```
\documentclass{article}

\usepackage{nomencl}

\makenomenclature

\begin{document}

\begin{tabbing}

{\bf Mathematical}\= \ {\bf symbols}\= \hspace{4.3in}{\ }=\{\ }.\

\> $\theta$ \> \ \ \ {Theta}\>\
```



```

<>  $\eta$  <> \ \ \ {Eta}<>\\
<>  $\vartheta$  <> \ \ \ {Vartheta}<>\\
<>  $\rho$  <> \ \ \ {Rho}<>\\
<>  $\nprec$  <> \ \ \ {neither precedes nor equals}<>\\
<>  $\subset$  <> \ \ \ {is a proper subset of}<>\\
<>  $\delta$  <> \ \ \ {Delta}<>\\
<>  $\zeta$  <> \ \ \ {zeta}<>\\
<>  $\Sigma$  <> \ \ \ {Sigma}<>\\
<>  $\Upsilon$  <> \ \ \ {Upsilon}<>\\
<>  $\Psi$  <> \ \ \ {Psi}<>\\
<>  $\Omega$  <> \ \ \ {Omega}<>\\
<>  $\mu$  <> \ \ \ {Mu}<>\\
\end{tabbing}
\end{document}

```

Output:

Mathematical symbols

θ	Theta
η	Eta
ϑ	Vartheta
ρ	Rho
\nprec	neither precedes nor equals
\subset	is a proper subset of
δ	Delta
ζ	zeta
Σ	Sigma
Υ	Upsilon
Ψ	Psi
Ω	Omega
μ	Mu

Program - 11

Draw any picture and insert in LaTeX file.

Aim:

To create a Latex Document to draw any picture and insert in LaTeX file.

Procedure:

- First draw a picture in paint software.
- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- Use graphical package `\usepackage{graphicx}`
- To print a picture in new document.
- Finally Save and run the document get a output.

Coding:

```
\documentclass{article}
```

```
\usepackage{graphicx}
```

```
\graphicspath{ {./images/} }
```

```
\begin{document}
```

The universe is immense and it seems to be homogeneous,
in a large scale, everywhere we look at.

```
\includegraphics{universe}
```

There's a picture of a galaxy above

```
\end{document}
```

Output:



Program - 12

Type of given Article.

Aim:

To create a Latex Document to type a given Article.

Procedure:

- First draw a picture in paint software.
- Open the latex document and click open a new document.
- The New document starts on default statements.
(eg: `\documentclass{article}`)
- Start the document and close the document using the code
`\begin{document}` and `\end{document}`
- To type give article using different mathematical coding in latex.
- Finally Save and run the document get a output.

Coding:

```
\documentstyle[12pt]{article}
\textheight 8.5in \textwidth 6.0in
\leftmargin 0.10in \rightmargin 0.10in
\topmargin -.3in \headsep .5in
\evensidemargin 0.0in \oddsidemargin 0.4in
\renewcommand*\labelenumi { [\theenumi] }
\begin{document}
\parskip=0.05in
```

\baselineskip =0.3in

{\bf 1. Mathematical formulation}

\par Consider a steady, laminar and two-dimensional slip flow of an incompressible, partial slip flow over a porous stretching sheet, of an electrically conducting fluid under the action of a transverse magnetic field B_{0} , placed in quiescent fluid(Newtonian) in the presence of radiation and space and temperature dependent heat source/sink and suction/blowing. The flow is assumed to be in the x -direction, which is chosen along the sheet and the y -axis perpendicular to it. The sheet issues from a thin slit at the origin $(0,0)$. It is assumed that the speed of a point on the plate is proportional to its distance from the slit and that the boundary-layer approximations are still applicable. Let x -axis along the surface, y -axis being normal to it. Let u and v are the fluid tangential velocity and normal velocity, respectively.\

The equation governing the problem under consideration are given by

\begin{equation}

$$u_x + v_y = 0$$

\end{equation}

\begin{equation}

$$u u_x + v u_y = \nu u_{yy} - \frac{\nu}{K} u - \frac{\sigma B_0^2 u}{\rho}$$

\end{equation}\end{document}

1. Mathematical formulation

Consider a steady, laminar and two-dimensional slip flow of an incompressible, partial slip flow over a porous stretching sheet, of an electrically conducting fluid (Newtonian) in the action of a transverse magnetic field B_0 , placed in quiescent fluid (Newtonian) in the presence of radiation and space and temperature dependent heat source/sink and suction/blowing. The flow is assumed to be in the x -direction, which is chosen along the sheet and the y -axis perpendicular to it. The sheet issues from a thin slit at the origin $(0,0)$. It is assumed that the speed of a point on the plate is proportional to its distance from the slit and that the boundary-layer approximations are still applicable. Let x -axis along the surface, y -axis being normal to it. Let u and v are the fluid tangential velocity and normal velocity, respectively.

The equation governing the problem under consideration are given by

$$u_x + v_y = 0 \quad (1)$$

$$u u_x + v u_y = \nu u_{yy} - \frac{\nu}{K} u - \frac{\sigma B_0^2 u}{\rho} \quad (2)$$