\documentclass[11pt,a4paper]{arabart}

\usepackage[top=1cm, bottom=1cm, left=1cm, right=1cm]{geometry} % top and bottom 2.5cm margin

\usepackage[utf8]{inputenc}

\usepackage[LAE]{fontenc}

\usepackage[arabic]{babel}

\usepackage{multicol}

\usepackage{multirow}

\usepackage{amsfonts}

\usepackage{amsmath}

\usepackage{amssymb}

\usepackage{latexsym}

\usepackage{array}

\usepackage{graphicx}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\newcommand{\dis}{\displaystyle}

\newcommand{\C}{\mathbb{C}}

\renewcommand{\R}{\mathbb{R}}

\newcommand{\Q}{\mathbb{Q}}

\newcommand{\Z}{\mathbb{Z}}

\newcommand{\N}{\mathbb{N}}

\mathchardef\times="2202

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\begin{document}

%%%%%%%%%%%%%%%%% the head %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\begin{tabular}[l]{r p{17em} p{10em}}

\AR{\textsharjah{$2$ باك ع الحياة والأرض }}

&\hspace{01.5cm} \AR{\textsharjah{ فرض محروس $1 $ الدورة $2$ }}

&\AR{\textsharjah{ثانوية .......}}

\\

&\hspace{01.5cm} \AR{\textsharjah{ \quad ذ: عزالدين تمكونت \quad }} &\\

\multicolumn{3}{c}{}\\

\end{tabular}

%%%%%%%%%%%%%%%%%%%% tabular %%%%%%%%%%%%%%%%%%

\begin{tabular}[c]{|p{34em } |p{0.02\linewidth}|}

\hline %\vspace{0cm}

%%%%%%%%%%%%%%%%%%%%exercice 1%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

&\\

\fbox{ {\AR{\textsharjah{ التمرين $1$} }} ({\AR{{ $4$ ن }}}) }

&\\

\vspace{0.1cm}

حل في المجموعة

$\C$

المعادلات التالية:

&\\

$1$)\hspace{2cm} $z^2-3z+3=0$ \quad .

& $2$\\

$2$)\hspace{2cm} $\dis\frac{z+1}{z}=z+2$ \quad .

&$2$\\

&\\

\hline

\multicolumn{2}{c}{}\\

\hline

%%%%%%%%exercice 2%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%\vspace{0.2cm}

&\\

\fbox{ {\AR{\textsharjah{ التمرين $2$} }} ({\AR{{ $5$ ن }}}) }

&

\\

\vspace{0.1cm}

احسب النهايات التالية:

&\\

$1$) \hspace{2cm} $\dis\lim\_{x\to +\infty}\dis\frac{e^x}{x^2+3x}$ \quad .

&$1.5$ \vspace{0.1cm}\\

$2$) \hspace{2cm} $\dis\lim\_{x\to 1}\dis\frac{e^{1-x}-1}{x-1}$ \quad .

&$2$ \vspace{0.3cm}\\

&\\

\hline

\multicolumn{2}{c}{}\\

%%%exercice 3%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

\hline

&\\

%\vspace{0.2cm}

\fbox{{\AR{\textsharjah{ التمرين $3$} }} ({\AR{{ $4$ ن }}}) }

&\\

%\vspace{0.5cm}

\vspace{0.1cm}

نعتبر الدالة العددية

$f$

المعرفة بما يلي:

\quad $f(x)=e^{2x}-2e^x$ &\\

$1$)

ادرس تغيرات الدالة

$f$

ثم أعط جدول تغيراتها.

&$2.5$\\

$2$)

حدد دالة أصلية للدالة

$f$

على

$\R $.

&$1.5$\\

&\\

\hline

\multicolumn{2}{c}{}\\

\hline

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%exercice 4%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%\vspace{0.2cm}

&\\

\fbox{ {\AR{\textsharjah{ التمرين $4$} }} ({\AR{{ $7$ ن }}}) }

&\\

\vspace{0.1cm}

نعتبر الدالة العددية

$f$

المعرفة على

$\R$

بما يلي:

&\\

\begin{minipage}{20em} %%

\begin{displaymath}

\left\{

\begin{array}{ll}

f(x)=x-1+lnx &, x\geqslant 1 \\

f(x)=e^{\frac{x}{x-1}} &, x< 1

\end{array}

\right.

\end{displaymath}

\end{minipage}

&\\

$1$)

بين أن الدالة

$f$

متصلة في النقطة

$x\_0=1$

\quad .

&$1$\\

$2$)

أ- تحقق من أن:

$e^{\frac{x}{x-1}}=e.e^{\frac{1}{x-1}}$

لكل

$x$

من

$]-\infty,1[$

\quad .

&$1.5$\\

\hspace{1cm}

و احسب

$\quad\dis\lim\_{\underset{x<1}{x\to 1}}\dis\frac{f(x)-f(1)}{x-1}\quad$

$\Big)$

ضع

$\Big( t=\dis\frac{1}{x-1} $

,

ماذا تستنتج؟

&\\ \hspace{0.2cm}

ب- ادرس قابلية اشتقاق الدالة

$f$

على اليمين في

$1$

\quad .

&$0.5$\\ \hspace{0.2cm}

ج- أول هندسيا نتيجتي السؤالين أ و ب .

&$0.5$\\

$3$)

أ- احسب

$\dis\lim\_{x\to +\infty}f(x)$

و

$\dis\lim\_{x\to -\infty}f(x)$

\quad .

&$1$\\ \hspace{0.2cm}

ب- أعط جدول تغيرات

$f$

\quad .

&$0.5$\\

$4$)

ليكن

$\mathcal{(C)}$

المنحنى الممثل للدالة

$f$

في معلم متعامد ممنظم

$(O,\vec{i}, \vec{j})$

.

&\\ \hspace{0.2cm}

أ- ادرس الفرعين اللانهائيين للمنحنى

$\mathcal{(C)}$

.

&$0.5$\\ \hspace{0.2cm}

ب- حل المتراجحة:

$\quad f(x)\leqslant x \quad$

حيث

$\quad x\in [1,+\infty[\quad$

$\quad$

.

&$0.5$\\ \hspace{0.2cm}

ج- انشئ المنحنى

$\mathcal{(C)}$

( نقبل أن للمنحنى

$\mathcal{(C)}$

نقطة انعطاف وحيدة أفصولها

$\dis\frac{1}{2}$

)

.

&$1$\\

&\\

\hline

\end{tabular}

\end{document}