OR

dkb /ku $4\frac{2}{3}$ o"k e $10\frac{1}{2}$% okf"kd lk/kkj.k C;kt dh nj l 3576 :i; gk trk gA blh nj ij fdru le; e ;g viuk ¼ewy/ku½ dk $\frac{5}{2}$ xuk gk tk;xk\

A sum of money amounts to Rs. 3576 in $4\frac{2}{3}$ years at $10\frac{1}{2}$% simple interest per annum when will it be $\frac{5}{2}$ times itself (principal) at the same rate of interest?

ç'u 5- ,d O;olk;h ,d e'khu dN gkfu ij 8000 :i; e cprk gA ;fn og ml e'khu dk 10000 :i; e cprk g rk ml igyh gkfu dk $\frac{2}{3}$ ykHk gkrk gA e'khu dk Ø; eY; Kkr dhft ,A

A businessman sells a machine for Rs. 8000 and makes a loss. If he sells that machine for Rs. 10000 then he makes a profit equal to $\frac{2}{3}$ of the previous loss. Find the cost of machine.

OR

,d fluek dk fVfdV 5-00 :i; dk Fkk bl fVfdV eY; dk 20% de dj fn;k x;k ftl dy fcØh ¼fVfdV foØ; l ikIr jkf'k½ 20% c< x;hA fluek n[ku okyk dh l[;k e fdru ifr'kr of) gb\

The price of a cinema ticket was Rs. 5.00. Price of ticket was reduced by 20% with result that the total sale proceeds (Amount collected from sale of ticket) are increased by 20%, what was the percentage increase in viewers?

---x---

Roll No..... Total No. of Sections : 03

Total No. of Printed Pages : 06

Code No. : B-134

Annual Examination - 2019

B.Com. Part - I

Paper - II

BUSINESS MATHEMATICS

Time : 3 Hrs. Max.Marks : 75

Min.Marks : 25

Vhi ¼ [k.M ^v* esa nl vfry?kZkjh iz'u gSa] ftUgsa gy djuk vfuok;Z gSA [k.M ^c* esa y?kqÙkjh ç'u ,oa [k.M ^l* esa nh?k mÙkjh ç'u gSA [k.M ^v* dk lcls igyk gy djsaA

Note : Section 'A', containing 10 very short-answer-type questions, is compulsory. Section 'B' consists of short-answer-type questions and Section 'C' consists of long-answer-type questions. Section 'A' has to be solved first.

Section - 'A'

fuEukfdr vfry?kqÙkjh ç'uksa d mÙkj ,d ;k nks okD;ksa e nsaA

Answer the following very short-answer-type questions in one or two sentences. **(1x10=10)**

ç'u 1- bdkbZ vkO;wg D;k gS\

What is Unit Matrices?

ç'u 2- ifr'krrk dk ifjHkk"kr dhft ,A

Define Percentage.

ç'u 3- ykxr ,oa foØ; eY; dk le>kb,A

Explain Cost and Selling Price.

ç'u 4- pØof) C;kt l vki D;k le>rs gS\

What do you understand by Compound Interest?

ç'u 5- y?kqx.kd dh lgk;rk l 467 dk y?kqx.kd Kkr dhft ,A

Find the logarithm of 467 using logarithm table.

ç'u 6- 0-8975 dk ifry?kqx.kd Kkr dhft ,A

Find the antilog of 0-8975.

P.T.O.

ç'u 7- 5%8 vFkok 3%5 e dku-lk dk vuikr cMk g\

Which ratio is greater 5%8 or 3%5?

ç'u 8- $\frac{1}{5}$ ¼fHkUu½ dk ifr'kr e cnfy,A

Convert $\frac{1}{5}$ [fraction] into percentage.

ç'u 9- ,d ijh{kk e Au 72 vd ,o Bu 84 vd ikIr fd;] ikIrkdk dk vkIr Kkr dhft ,A

In an examination A secured 72 marks and B secured 84 marks. Find the average of marks secured.

ç'u 10- 1 eh Vj ,o 1 fdyksehVj d ikjLifjd lEcU/k dk vuikr d :i e fyf[k;A

Express the mutual relation of 1 metre and 1 kilometre in the form of ratio.

Section - 'B'

fuEukfdr y?k mÙkjh; ç'uk d mÙkj 150&200 'kCn lhek e n
Answer the following short-answer-type questions with word limit 150-200 **(5x5=25)**

ç'u 1- y?kx.kd dh lgk;rk l fuEu dk eku Kkr dhft, %

Find the value of the following with the help of logarithms :

$$\frac{1.5\times1.2}{0.036}$$

OR

6 cPpk dh vkIr vk; 7 o"k gA ;fn mudh firk dh vk; Hkh tkM nh tk; rk vkIr vk; 5 Ok"k c< tkrh gA firk th dh vk; crkvkA

The average age of 6 children is 7 years. If their father's age is taken into account the average age increases by 5 years. Find the father's age.

OR

fuEukfdr lkjf.kd d iFke ifDr d vo;ok d lg[k.M Kkr dhft, :

Find all the co-factors of the elements of first row in the following determinant :

$$\begin{vmatrix} 10 & 13 & 16 \\ 11 & 14 & 17 \\ 12 & 15 & 18 \end{vmatrix}$$

ç'u 3- fuEufyf[kr ifjogu leL;k dk ukFk oLV dkuj fof/k l gy dhft, :-

Solve the following transport problem by North West corner method :-

efty@Destination lkr@Origin	D_1	D_2	D_3	D_4	ifr@Supply
01	6	4	1	5	14
02	8	9	7	7	16
03	4	3	6	2	5
ekx@Demand	6	10	15	4	35

OR

,d ijh{kk e ikp i'ui= g vkj lHkh i'u i=k d vf/kdre vd leku gA ,d ijh{kkFkh d ikIrkd 3 % 4 % 5 % 6 % 7 vuikr e g vkj mldk dy ikIrkd vf/kdre vdk d $\frac{3}{5}$ g] crkb, mlu fdru fo"k;k e vk/k l vf/kd vd ikIr fd;\

In an examination, there are five subjects and all have the same maximum marks. A candidates marks are in the ration of 3 : 4 : 5 : 6 : 7 and his aggregate marks of $\frac{3}{5}^{th}$ of the grand total of maximum marks. In how many subjects did he get more than half of the marks?

ç'u 4- 6950 :i; dk 1 o"k 9 ekg dk pØof) C;kt rFkk feJ/ku 12% okf"kd ifr'kr dh nj l Kkr dhft, tcfd C;kt dh x.kuk =ekfld dh tkrh g\

Find the compound interest and amount on Rs. 6950 at 12% per annum interest for 1 year and 9 months while the interest in calculated quarterly?

P.T.O.

ç'u 2- ;fn $\begin{bmatrix} 2+y & z \\ 4 & x-y \end{bmatrix} = \begin{bmatrix} 3 & 2 \\ 4 & 1 \end{bmatrix}$ gk rks x, y rFkk z dk eku Kkr dhft ;A

If $\begin{bmatrix} 2+y & z \\ 4 & x-y \end{bmatrix} = \begin{bmatrix} 3 & 2 \\ 4 & 1 \end{bmatrix}$ then, find the value of x, y and z.

OR

fuEukfdr lkjf.kd d iFke ifDr d vo;ok d lg[k.M Kkr dhft, %

Find all the co-factors of the elements of first row in the following determinant :

$$\begin{vmatrix} -2 & 3 & 4 \\ 1 & -2 & 3 \\ -5 & 3 & -4 \end{vmatrix}$$

ç'u 3- 32]000 :i; A, B ,o C e $\frac{1}{4}:\frac{5}{16}:\frac{7}{16}$ d vuikr e ckaVA

Divide Rs. 32]000 amongst A, B and C in the ratio of $\frac{1}{4}:\frac{5}{16}:\frac{7}{16}$.

OR

;fn 30 vkneh ,d dke dk 45 fnu e ijk djr g rks bl h dke dk 25 fnu e ijk dju d fy; fdru vkj vknfe;k dh t:jr iMxhA

If 30 men can finish a work in 45 days, then how many more men will finish the same work in 25 days?

ç'u 4- $3\frac{1}{2}$% okf"kd lk/kkj.k C;kt dh nj l 5000 :i; dk 2 o"kZ dk lk/kkj.k C;kt ,o feJ/ku Kkr dhft,A

Compute the simple interest and amount on Rs. 5000 for 2 years at $3\frac{1}{2}$% simple interest per annum.

OR

1000 :i; dk 4 o"kZ d fy, 10% okf"kZd dh nj l pØof) C;kt rFkk feJ/ku Kkr dhft,A

P.T.O.

(3) **Code No. : B-134**

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P.T.O.

Calculate the compound interest and amount of Rs. 1000 @10% per annum for 4 years.

ç'u 5- ,d Nk= viuh /kujkf'k dk 70% 0;; djrk g vkj rc mld ikl 21 :i; cpr g mldh /kujkf'k crkb,A

A student expends 70% of money and saves Rs. 21, find the sum of money.

OR

,d LdVj ftldh dher 8000 :i; Fkh] [kjhnu ij Ørk u 7800 udn :i; fn;] NV dh nj Kkr dhft,A

A purchaser paid Rs. 7800 in cash for a scooter that eosts Rs. 8000, calculate the rate of discount.

Section - 'C'

fuEukfdr nh?k mÙkjh; ç'uk d mÙkj 300&350 'kCn lhek e n

Answer the following long-answer-type questions with word limit 300-350 **(8x5=40)**

ç'u 1- y?kx.kd dh lgk;rk l fuEu dk eku Kkr dhft ; %

Find the value of the following with the help of logarithms :

$\sqrt[6]{0.143}$

OR

lkeokj] exyokj rFkk c/kokj dk vkl r rkieku $40^{\circ}C$ Fkk vkj exyokj] c/kokj rFkk x:okj dk vkl r rkieku $41^{\circ}C$ FkkA ;fn x:okj dk rkieku $42^{\circ}C$ Fkk rk lkeokj dk rkieku Kkr dhft,A

The average temperature of Monday, Tuesday and Wednesday was $40^{\circ}C$ and of Tuesday, Wednesday and Thursday was $41^{\circ}C$ · If the temperature of Thursday was $42^{\circ}C$ then find the temperature of Monday?

ç'u 2- A vkj B nk vk0;gk dk x.kuQy AB rFkk BA Kkr dhft, tgk %

Find the product AB and BA of two matrices A and B where :

$$A=[1, 2, 3, 4] \qquad B=\begin{bmatrix}1\\2\\3\\4\end{bmatrix}$$

(4) Code No. : B-134

Calculate the compound interest and amount of Rs. 1000 @10% per annum for 4 years.

ç'u 5- ,d Nk= viuh /kujkf'k dk 70% 0;; djrk g vkj rc mld ikl 21 :i; cpr g mldh /kujkf'k crkb,A

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