MIDTERM EXAMINATION

MTH302- Business Mathematics

Question No: 1   (Marks: 1)   - Please choose one

Store A marked down a $ 50 perfume to $ 40 with markdown of $10
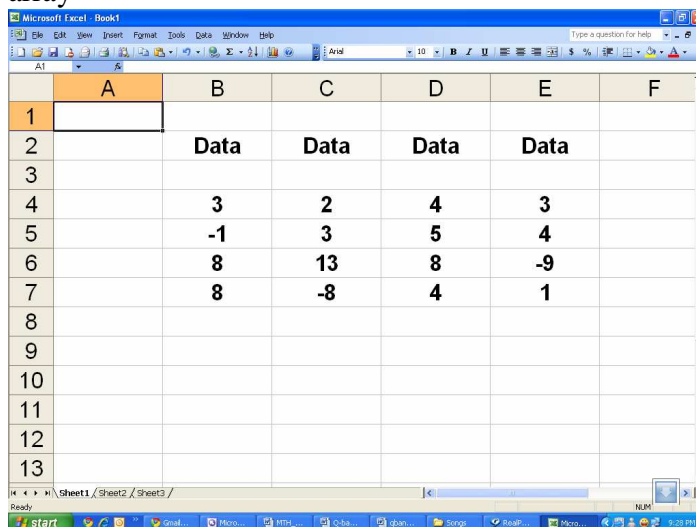
The % Markdown is

► 10%

► **20%**

► 30%

► 40%

Question No: 2   (Marks: 1)   - Please choose one

Given Net price of shirt = $20 , Discount = 10% ,List price will

► **$22**

► $24

► $26

► $30

Question No: 3   (Marks: 1)   - Please choose one

Which is the correct syntax for the determinant of a matrix given by the following array

► =DETERM(B4:E7)

► =MDTERM(B4:E7)

► **=MDETERM(B4:E7)**

► =MDETERM(B4;E7)

Question No: 4   (Marks: 1)   - Please choose one

VDB returns the depreciation of an asset for

► Zero period

► One period

► Two period

► **Any arbitrary period**

Question No: 5   (Marks: 1)   - Please choose one

If the cost & selling price of a pen are Rs.12 & Rs.15 respectively, profit percentage is:

► 33.33%

► **25%**

► 20%

► 10%

Question No: 6   (Marks: 1)   - Please choose one

This example returns the depreciation for an asset that costs Rs. 10,000, with a salvage value of $8,000. The useful life of the asset is 5 years. The depreciation is being calculated for the third year, and there are 10 months in the first year.
► =DB (10000, 5, 8000, 3, 10)
► =DB (10000, 8000, 5, 10, 3)
► **=DB (10000, 8000, 5, 3, 10)**
► =DB (10000, 8000, 10, 3, 5)

Question No: 7   (Marks: 1)   - Please choose one

Which of the following functions is not related to financial analysis?
► AMORDEGRC
► AMORLINC

► CUMIPMT
► **MDETERM**

Question No: 8   (Marks: 1)   - Please choose one

(2) ^ -2 =) **0.25**........

► ~ □□
► ~ □□
► ~ □□
► ~ □□

Question No: 9   (Marks: 1)   - Please choose one

Dimension of a matrix means
►Column space

►Row space

►**Order of the matrix**

►None of these

Question No: 10   (Marks: 1)   - Please choose one

If there is a -30% change in the price of an item, what does the negative sign show?
►The price is increasing.
►**The price is decreasing.**
►The price has low rate of change.
►None of the above.

Question No: 11   (Marks: 1)   - Please choose one

According to taxation rules; the amount of allowances is treated tax free if it is upto **50%** of the basic salary.

► □□□□□□
► □□□□□□□□
► ~ □
► □□□□□□□□□

Question No: 12   (Marks: 1)   - Please choose one

Write a formula to find the simple interest (I) if $5000 is invested at 4% for 2 years.

►**I=PRT**
►I=P+R+T
►I=PT
►I=P(R+T)

Question No: 13   (Marks: 1)   - Please choose one

Every percentage can be converted into:

- 🕐 Decimal
- 🕐 Ratio

- 🕐 Proportion
- 🕐 **Both decimal & ratio**

Question No: 14   (Marks: 1)   - Please choose one

Monthly installments of a leased car are calculated by using the techniques of:

- ► Simple interest method

- ► **Compound interest method**

- ► Annuity
- ► Hit & trial method

Question No: 15   (Marks: 1)   - Please choose one

Suppose that you are spending 1500 dollars in an investment and Accumulated factor is 15 then Accumulated Value will be

- ► 22550
- ► **22500**
- ► 21000
- ► 22510

Question No: 16   (Marks: 1)   - Please choose one

What is the interest on Rs. 1600 for one year at the rate $3\frac{1}{2}$ %?

- ► 65
- ► **56**
- ► 75
- ► 90

Question No: 17   (Marks: 2)

A man borrows $39000 for 1and half year at a rate of 1.65%. What is the simple interest he has to pay?

Simple interest is given by

I= P*R*T/100

P= principal = $39000

R= interest rate= 1.65%

T= 1.5 year

Interest, I =(39000 * 1.65 *1.5)/100 = Rs 965.25

Question No: 18 (Marks: 2)

If
Cost price = 2000Rs
Selling price = 6500Rs
Then what will be %Markup on cost?

MUC= S- C (Rs markup on cost = selling price- cost price)
= 6500-2000 = Rs 4500
% markup on cost = (MuC/cost price) * 100 = (4500/2000) *100= 225%

Question No: 19 (Marks: 3)

	A	B	C
1			
2			
3		50	
4		20	
5		10	
6		2	
7			
8			
9		=SUM(B3,B4,B5,B6)	
10		=MULTIPLY(B5,B6)	
11		B4/B6	
12		=B4%	
13			

Write the output of B9, B10, B11 and B12. If you think the formula is incorrect write "Error" in output.

ANSWER:
The output of =sum(B3,B4,B5,B6) = 100

=multiply(B5,B6) will not give result because multiply is not a excel function

B4/B6 is not a formula because in excel formula must start with "="

=B4% will return 0.2

Question No: 20   (Marks: 5)

A gold chain is sold for Rs. 6500 at a gain of 25%. Find the profit.

Selling price = 6500
Profit = 25%
Profit in Rs= (6500*25)/100= Rs 1625

Question No: 21   (Marks: 10)

For the following matrices perform the indicated operation, if possible.

$$A = \begin{bmatrix} 2 & 0 & -3 & 2 \\ -1 & 8 & 10 & -5 \end{bmatrix} \qquad B = \begin{bmatrix} 0 & -4 & -7 & 2 \\ 12 & 3 & 7 & 9 \end{bmatrix} \qquad C = \begin{bmatrix} 2 & 0 & 2 \\ -4 & 9 & 5 \\ 6 & 0 & -6 \end{bmatrix}$$

(a) $A + B$
(b) $B - A$
(c) $A + C$

a)
A = 2   0   -3   2   +   B = 0   -4   -7   2
      -1   8   10   -5   12   3   7   9

A+B= 2+0   0-4   -3-7   2+2
       -1+12   8+3   10+7   -5+9

A+B = 2   -4   -10   4
          11   11   17   4

b)
B-A=   0-2   -4-0   -7-(-3)   2-2
          12-(-1)   3-8   7-10   9-(-5)

B-A= -2   -4   -4   0
          13   -5   -3   14

c) A+C is not conformable for addition because for addition number of rows and

columns of A must be equal to number of rows and columns of C

Question No: 1   (Marks: 1)   - Please choose one

The Basic salary of an employee is Rs 7,000.   What is the contribution of the company on account of gratuity to the Gratuity Trust Fund?

► Rs **636.36**
　► Rs 6363.6
　► Rs 63.636
　► Rs 6363

Question No: 2   (Marks: 1)   - Please choose one

The monthly incomes of A and B are in the ratio 4 : 5, their expenses are in the ratio 5 : 6. If 'A' saves Rs.25 per month and 'B' saves Rs.50 per month, what are their respective incomes?

► Rs.400 and Rs.500
► Rs.**240 and Rs.300**
► Rs.320 and Rs.400
► Rs.440 and Rs.550

Question No: 3   (Marks: 1)   - Please choose one

Sum of annuity is always

　► Present value

　► **Future value**

　► Net present value

　► Current value

Question No: 4   (Marks: 1)   - Please choose one

In annuity interest is charged by the:
　　► Simple interest method

　► Compound interest method
　　► **Both simple and compound interest method**

　► Accumulated method

Question No: 5   (Marks: 1)   - Please choose one

Find x if 3(x + 2) - 7 = 11.

► 2
► -4
► 6
► **4**

Question No: 6   (Marks: 1)   - Please choose one

The value of x after solving the following linear equation is
$$-2x + 6 = 4x - 2$$

► 0
► 3
► 1/2
► **4/3**

Question No: 7   (Marks: 1)   - Please choose one

The sequence of payments at equal interval of time is called
► **Annuity**

► Accumulated value

► Discounted value

► None of these

Question No: 8   (Marks: 1)   - Please choose one

Ali has improved his typing speed from 40w/m to 60w/m.The percentage improvement is

► 20%
► 150%
► **50%**
► 30%

Question No: 9   (Marks: 1)   - Please choose one

Markdown means a reduction from the
► Original cost price

► **Original sale price**

► Original Net price

► None of these

Question No: 10   (Marks: 1)   - Please choose one

Markup is an amount added to --

► get accumulated interest
► **a cost price while calculating a selling price.**
► The principal amount of the loan.
► Accumulation factor.

Question No: 11   (Marks: 1)   - Please choose one

Interest calculated upon the principal amount added to the interest on it is called ......

► Simple interest
► **Compound interest**
► Annual interest per year
► Semi annual interest

Question No: 12   (Marks: 1)   - Please choose one

Contribution Margin is the Rs. amount that is equal to ----------------------
► **S – VC**
► VC – S
► FC – VC
► VC – FC

Question No: 13   (Marks: 1)   - Please choose one

Reduction from original selling Price is called ....

► Loss
► List price
► Profit
► **Markdown**

Question No: 14   (Marks: 1)   - Please choose one

What will be the simple interest earned on an amount of Rs. 16,800 in 9 months

at the rate of $6\dfrac{1}{4}$ % p.a?

► Rs. **787.50**
► Rs. 812.50
► Rs 860
► Rs. 887.50

Question No: 15   (Marks: 1)   - Please choose one

A percentage is a way of expressing a number as
► **a fraction of 100 .**

. ►sum of number with 100.

. ►multiplication of number with 100.

. ►average of number with 100.

Question No: 16   (Marks: 1)   - Please choose one

12.5% of a circular plot as a fraction is expressed as **1/8**

$$\frac{5}{4}$$
. ►

$$\frac{125}{1}$$
. ►

$$\frac{8}{1}$$
. ►

$$\frac{1}{8}$$
. ►

Question No: 17   (Marks: 1)   - Please choose one

 To convert a number in percent (%) from a fraction, we do which of the following operation:

. ►add by 100

. ►subtract by 100

. ►**multiply by 100**

. ►divide by 100

Question No: 18   (Marks: 1)   - Please choose one

What result will I get when press enter in cell D9?

- ▶ 75
- ▶ **B5+C5+D5+E5+F5**
- ▶ Error
- ▶ Cannot be determine

Question No: 19   (Marks: 1)   - Please choose one

Interest paid (earned) on only the original principal borrowed (lent) is often referred to as

   ▶ **simple interest**

   ▶ present value

   ▶ future value

   ▶ compound interest

Question No: 20   (Marks: 1)   - Please choose one

$$A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 2 \\ 3 & 1 & 3 \end{bmatrix} \quad B = \begin{bmatrix} 2 & 2 & 3 \\ 2 & 1 & 1 \end{bmatrix}$$

By multiplying the above two matrices we get the following result

$$C = \begin{bmatrix} 5 \\ 8 \\ 9 \end{bmatrix}$$

►
$$C = \begin{bmatrix} 9 \\ 7 \\ 17 \end{bmatrix}$$

►
$$C = \begin{bmatrix} 9 \\ 12 \\ 17 \end{bmatrix}$$

►
► **Given matrices cannot be multiplied**

Question No: 21   (Marks: 1)   - Please choose one
The formula for finding BEP in units is given by

► FC/VC
► **FC/(S-VC)**
► CM/FC
► CM/VC

Question No: 22   (Marks: 1)   - Please choose one
If A is a matrix whose determinant is zero then its inverse is given by:

► **zero**
► product of its diagonal entries
► infinite
► cannot be determined

Question No: 23   (Marks: 1)   - Please choose one
which of the following is linear equation

► **2x-3y=-6**

► x+x+x

► 520x²y²

► y^2 -3=0

Question No: 24   (Marks: 1)   - Please choose one

 percentage of ratio of given number with standard number is.......
- ►100
- ►**Same number**
- ►1000
- ►10

Question No: 25   (Marks: 3)

 Find the single discount rate that is equivalent to the series18%, 12%, 9%.
Solution:

Let list price = 100

Series trade discount: Netprice = List price(1-d1)(1-d2)…..(1-dn)
$$= 100 (1 - .18)(1 - .12)(1 - .09)$$
$$= 100(.82)(.88)(.91)$$
$$=100(.657)$$
$$=65.7$$
Single discount rate = 100 – 65.7
$$= \textbf{34.3\%}$$

Question No: 26   (Marks: 5)

 Compute the amount of compound interest for Rs 3500 at 6% per annum for 2 years.
Solution:

$S = P(1+R/100)^n$
S= Money accrued after n years also called compound amount
P= Principle amount
R= Rate of interest
n= number of periods

S= 3500 (1 + 6/100)^2
  =3500 (1 + .06)^2
 =3500(1.06)^2
= 3500(1.1236)
S=3933

Compound interest = S – P
$$= 3933 – 3500$$

$$= 433$$

Question No: 27 (Marks: 10)

It is advised by the exam department of an institute to the assistant to develop a structure of marks obtained by three students in three different subjects for very quick view & analysis with the following instructions to be followed strictly as;
  a) marks obtained by EACH student in EVERY subject
  b) marks in EACH subject be obtained by EVERY student.

  Also describe & justify the optimality of the structure. If such model is possible then suggest its further extension for numerous numbers of students.

Solution: The optimal method to solve this problem is by using **matrices**

Let the student names be:
  1. Ahmed
  2. Shahzad
  3. Amjad
Let the subjects be:
  1. Math
  2. Chemistry
  3. Physics

	Math	Chemistry	Physics
Ahmed	10	20	30
Shahzad	15	25	35
Amjad	20	25	45

Now let's convert the above table into a matrix:

$$A = \begin{matrix} 10 & 20 & 30 \\ 15 & 25 & 35 \\ 20 & 25 & 45 \end{matrix}$$

BENEFITS OF MATRICES: The below benefits can help in further extension
  1. **Can handle large amount of data**:
     So w.r.t to the above question you can increase the no. of students & subjects as per your requirement and a
  2. **Analysis of data**:

By using different matrix functions you can easily find out the respective averages and the grades of students.

3. **Simple & Easy:**
The above mentioned matix structure is simple and easy to understand and the data can be easily converted from table to matrix

4. **Easy to evaluate performance:**
Its easy to find each students performance in a specific subject

5. **Easy extension:**
As matrices can handle large amounts of data so you just need to enter the data rest is done by matrices functions.

Question No: 1   (Marks: 1)   - Please choose one

45% of what is 9?

► *20*
► 40
► 30
► 10

Question No: 2   (Marks: 1)   - Please choose one

What will be the answer of the SUMIF formula?

- ⊙ 1075
- ⊙ 985
- ⊙ 855
- ⊙ 130

Question No: 3   (Marks: 1)   - Please choose one

After the merchant buys merchandise, it is sold at a higher price called the
_____

► Sale price

► Revenue discount

► Selling price
► ***Cost price***

Question No: 4   (Marks: 1)   - Please choose one

In the case of partial payments, the _____ is the partial payment plus the
partial cash discount

► Amount received

► Amount returned

► Amount credited
► Amount displaced

Question No: 5   (Marks: 1)   - Please choose one

In a friendly cricket between India and Pakistan, Pakistan is scoring at a rate 7%
more than India in 35 overs. If the India's score after 35 overs was 230 what's
Pakistan score now?

► **250**
► **235**
► ***246***
► **240**

Question No: 6   (Marks: 1)   - Please choose one

0.20% = ------------

► 0.2

🕐   0.02

🕐   ***0.002***

🕐   0.0002

Question No: 7   (Marks: 1)   - Please choose one

$$A = \begin{bmatrix} 2 & 6 \\ 3 & 4 \end{bmatrix} \qquad B = \begin{bmatrix} 1 & 9 \\ 3 & 3 \end{bmatrix}$$

, then AB is ---------------------------

$$\begin{bmatrix} 20 & 36 \\ 25 & 30 \end{bmatrix}$$

►

$$\begin{bmatrix} 20 & 36 \\ 35 & 30 \end{bmatrix}$$

►

$$\begin{bmatrix} 20 & 36 \\ 15 & 39 \end{bmatrix}$$

►

$$\begin{bmatrix} 20 & 36 \\ 45 & 39 \end{bmatrix}$$

►

Question No: 8   (Marks: 1)   - Please choose one

What will be the base of 25% rate and percentage is 65?

► 216
► 250
► *260*
► None of these

Question No: 9   (Marks: 1)   - Please choose one

The formula for compound interest for n number of periods is

► S = P(1 + r/100)* n

► S = P(1 + n/100)^ r

► *S = P(1 + r/100)^ n*

► S = P(1 + r/100)/ n

Question No: 10   (Marks: 1)   - Please choose one

According to the local laws, the allowances are considered tax free if they are up to

► *half of the basic salary*
► one fourth of the basic salary

► one third of the basic salary
► 55% of the basic salary

Question No: 11　(Marks: 1)　- Please choose one
Amount of discount is obtained as
► **Percentage of Discount x List Price**

🕐　Percentage of Discount / List Price

🕐　Percentage of Discount - List Price

🕐　None of these

Question No: 12　(Marks: 1)　- Please choose one
In which Trust Fund, the company does not deduct, but only contribute 1/11th of Basic Salary of the employee per month?

► Provident Fund
► **Gratuity Fund**
► Stock yield
► Interest

Question No: 13　(Marks: 1)　- Please choose one

The value of x for the equation -(-x - 5) = x – 2 is ------------------
► **no solutions**
► -5
► 3
► 1 / 2

Question No: 14　(Marks: 1)　- Please choose one
What will be the simple interest earned on an amount of Rs. 16,800 in 9 months

at the rate of $6\frac{1}{4}$ % p.a?

► **Rs. 787.50**
► Rs. 812.50
► Rs 860
► Rs. 887.50

Question No: 15　(Marks: 1)　- Please choose one

This example returns the present value of an investment that pays Rs. 250 at the end of every month for 2 years. The money paid out will earn 7.5% annually.

. ► =PV (7.5%/12, 2*12, 250, 1)
. ► =PV (7.5%/12, 2*12, 250, 0)
. ► =PV (7.5%/12, 2, 250, 0)
. ► **=PV (7.5%, 2*12, 250, 1)**

Question No: 16   (Marks: 1)   - Please choose one

All formula in Excel start with

. ► +
. ► **=**
. ► -
. ► %

Question No: 17   (Marks: 1)   - Please choose one

A percentage is a way of expressing a number as

. ► **a fraction of 100 .**
. ► sum of number with 100.

. ► multiplication of number with 100.

. ► average of number with 100.

Question No: 18   (Marks: 1)   - Please choose one

Given : List Price =5500Rs   , Discount = 850Rs, then Net Cost Price will be

. ► 6350 Rs

6350 Rs

. ► 5508 Rs

5508 Rs

. ► 5585 Rs

. ► **4650 Rs**

Question No: 19   (Marks: 1)   - Please choose one

If C = Cost price, S = Selling Price then the margin on the cost is equal to

$$\frac{C-S}{C}\times 100$$

. ►

$$\frac{C-S}{S}\times100$$

. ►.

$$\frac{S-C}{C}\times100$$

. ►

$$\frac{S-C}{S}\times100$$

. ►.

Question No: 20   (Marks: 1)   - Please choose one

In 2 years you are to receive $10,000. If the interest rate were to suddenly decrease, the present value of that future amount to you would

- Fall
- Rise
- remain unchanged
- ***The correct answer cannot be determined without more information***

Question No: 21   (Marks: 1)   - Please choose one

The net price of a computer table is 2500 and list price 3000. The trade discount will be

► 13%

► ***17%***

► 21%

► 25%

Question No: 22   (Marks: 1)   - Please choose one

Store A marked down a $ 50 perfume to $ 40 with markdown of $10

The % Markdown is

► 10%

► ***20%***

► 30%

► 40%

Question No: 23   (Marks: 1)   - Please choose one

Given for a product selling price = $45 and unit variable cost= $30 then Unit contribution margin will be

► $15
► $75
► $1.5
► ***Can not be found from given values.***

Question No: 24   (Marks: 1)   - Please choose one

$3x^{2} + 5x - 7$ is --------------   expression.

► Monomial
► ***Binomial***
► Trinomial
► Linear

Question No: 25   (Marks: 3)

The mean of the numbers 10, 7, 9, 2 and x is 11; find the value of x.

Solution

total $= 5*11 = 55$

total $= 10+7+9+2+x=55$

$28+x=55$

$x=55-28$

$x=27$

Question No: 26   (Marks: 5)

The salary of an employee is as follows:
Basic salary = 50,000 Rs.
What is the amount of allowances if House Rent = 45 %, Conveyance allowance = 2.5 % and Utilities allowance = 2.5 %?

Solution
House Rent = 50000*45/100 =22500
Conveyance Allowance = 50000*2.5/100 = 1250
Utilities Allowance = 50000*2.5/100 = 1250

Question No: 27   (Marks: 10)

If the price of 16 dozen of eggs and 10 breads of large size is 332.The price of 10 dozen of eggs and 8 breads of large size is 225.Find the prices of per dozen eggs and per bread.
(Solve this question by using matrices only)

Solution

192X+10y=332

120x+8y=225

from 2

8y=225-120x

y=(225-120x)/8

put in 1

192x+10(225-120x)/8=332

192x+281.25-150x=332

(192-150)x=332-281.25

42x=50.75

x=1.21

y=(225-120*1.21)/8

y=10

MIDTERM EXAMINATION
Fall 2008
MTH302- Business Mathematics & Statistics (Session - 2)

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The % Markdown is

► 10%

► **20%**

► 30%

► 40%

Question No: 2   (Marks: 1)   - Please choose one

Given Net price of shirt = $20 , Discount = 10% ,List price will
► **$22**
► $24
► $26
► $30

Question No: 3   (Marks: 1)   - Please choose one

Which is the correct syntax for the determinant of a matrix given by the following array

► =DETERM(B4:E7)

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► **=MDETERM(B4:E7)**

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VDB returns the depreciation of an asset for

► Zero period

► One period

► Two period

► **Any arbitrary period**

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If the cost & selling price of a pen are Rs.12 & Rs.15 respectively, profit percentage is:

► 33.33%

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This example returns the depreciation for an asset that costs Rs. 10,000, with a salvage value of $8,000. The useful life of the asset is 5 years. The depreciation is being calculated for the third year, and there are 10 months in the first year.
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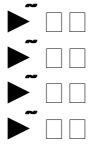► **=DB (10000, 8000, 5, 3, 10)**
► =DB (10000, 8000, 10, 3, 5)

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Which of the following functions is not related to financial analysis?
► AMORDEGRC
► AMORLINC
► CUMIPMT
► **MDETERM**

Question No: 8   (Marks: 1)   - Please choose one
$(2)^{-2}$ =) **0.25**……..

► ~ ☐☐
► ~ ☐☐
► ~ ☐☐
► ~ ☐☐

Question No: 9   (Marks: 1)   - Please choose one

Dimension of a matrix means

► Column space

► Row space

► **Order of the matrix**

► None of these

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If there is a -30% change in the price of an item, what does the negative sign show?

► The price is increasing.

► **The price is decreasing.**

► The price has low rate of change.

► None of the above.

Question No: 11   (Marks: 1)   - Please choose one

According to taxation rules; the amount of allowances is treated tax free if it is upto **50%**   of the basic salary.

► ☐☐☐☐☐☐

► ☐☐☐☐☐☐☐

► ~ ☐

► ☐☐☐☐☐☐☐☐

Question No: 12   (Marks: 1)   - Please choose one

Write a formula to find the simple interest (I) if $5000 is invested at 4% for 2 years.

► **I=PRT**

► I=P+R+T

► I=PT

► I=P(R+T)

Question No: 13   (Marks: 1)   - Please choose one

Every percentage can be converted into:

- ⊕ Decimal
- ⊙ Ratio

- ⊙ Proportion
- ⊙ **Both decimal & ratio**

Question No: 14   (Marks: 1)   - Please choose one
Monthly installments of a leased car are calculated by using the techniques of:
- ► Simple interest method

- ► **Compound interest method**

- ► Annuity
- ► Hit & trial method

Question No: 15   (Marks: 1)   - Please choose one
Suppose that you are spending 1500 dollars in an investment and Accumulated factor is 15 then Accumulated Value will be
- ► 22550
- ► **22500**
- ► 21000
- ► 22510

Question No: 16   (Marks: 1)   - Please choose one

What is the interest on Rs. 1600 for one year at the rate $3\frac{1}{2}$ %?
- ► 65
- ► **56**
- ► 75
- ► 90

Question No: 17   (Marks: 2)
A man borrows $39000 for 1and half year at a rate of 1.65%. What is the simple interest he has to pay?
Simple interest is given by
I= P*R*T/100
P= principal = $39000
R= interest rate= 1.65%
T= 1.5 year
Interest, I =(39000 * 1.65 *1.5)/100 = Rs 965.25

Question No: 18   (Marks: 2)

If
Cost price = 2000Rs
Selling price = 6500Rs
Then what will be %Markup on cost?

MUC= S- C (Rs markup on cost = selling price- cost price)
    = 6500-2000 = Rs 4500
  % markup on cost = (MuC/cost price) * 100 = (4500/2000) *100= 225%

Question No: 19   (Marks: 3)

	A	B	C
1			
2			
3		50	
4		20	
5		10	
6		2	
7			
8			
9		=SUM(B3,B4,B5,B6)	
10		=MULTIPLY(B5,B6)	
11		B4/B6	
12		=B4%	
13			

Write the output of B9, B10, B11 and B12. If you think the formula is incorrect write "Error" in output.

ANSWER:
The output of =sum(B3,B4,B5,B6) = 82

=multiply(B5,B6) will not give result because multiply is not a excel function

B4/B6 is not a formula because in excel formula must start with "="

=B4% will return 0.2

Question No: 20   (Marks: 5)

A gold chain is sold for Rs. 6500 at a gain of 25%. Find the profit.

Selling price = 6500
Profit = 25%
Profit in Rs= (6500*25)/100= Rs 1625

Question No: 21   (Marks: 10)

For the following matrices perform the indicated operation, if possible.

$$A = \begin{bmatrix} 2 & 0 & -3 & 2 \\ -1 & 8 & 10 & -5 \end{bmatrix} \qquad B = \begin{bmatrix} 0 & -4 & -7 & 2 \\ 12 & 3 & 7 & 9 \end{bmatrix} \qquad C = \begin{bmatrix} 2 & 0 & 2 \\ -4 & 9 & 5 \\ 6 & 0 & -6 \end{bmatrix}$$

(a) $A + B$
(b) $B - A$
(c) $A + C$

a)

A = 2   0   -3   2   +   B = 0   -4   -7   2
    -1   8   10 -5   12   3   7   9

A+B= 2+0   0-4   -3-7   2+2
     -1+12   8+3   10+7   -5+9

A+B = 2   -4   -10   4
      11   11   17   4

b)

B-A=   0-2   -4-0   -7-(-3)   2-2
      12-(-1)   3-8   7-10   9-(-5)

B-A= -2   -4   -4   0
      13   -5   -3   14

c) A+C is not conformable for addition because for addition number of rows and columns of A must be equal to number of rows and columns of C

Question No: 1   (Marks: 1)   - Please choose one

A, B and C play cricket. A's runs are to B's runs and B's runs are to C's as

3:2. They get altogether 342 runs.

How many runs did A make?

► *162*
► 108
► 72
► 112

Question No: 2   (Marks: 1)   - Please choose one

The price of a P4 computer was $12000 last year. What is the price of the computer for this year if the price is decreased by 10% ?

► $12000

► $12500

► *$10800*

► $9000

Question No: 3   (Marks: 1)   - Please choose one

Four friends take an IQ test. Their scores are 96, 100, 106, 114. Which of the following statements is true?

► The mean is 103.
► *The mean is 104.*
► The median is 100.
► The median is 106.

Question No: 4   (Marks: 1)   - Please choose one

Percentage is a ratio of given number with standard number:

► *100*
► Same number

► 1000
► 10

Question No: 5   (Marks: 1)   - Please choose one

The Virtual University of Pakistan is a growing distant learning university of Pakistan. The number of students in the university is increasing each year. The number of registered students in a course related to business math last year was

7113 and it is increased up to 9242 this year. What is the percentage increase in the number of students?

► 23%
► ***30%***
► 18%
► 42%

Question No: 6   (Marks: 1)   - Please choose one

If A and B are any two matrices of order $m \times n$ and $p \times q$ respectively and $m>n$ and $p<q$. What should be the condition on m, n, p, q for the product AB to hold?

► n>p
► m<=q
► q=p
► n=p

Question No: 7   (Marks: 1)   - Please choose one

The price at which investors buy or sell a share of stock at a given time is referred as

► Face value
► ***Market value***
► Accumulated value
► Earning value

Question No: 8   (Marks: 1)   - Please choose one

Gross salary is also called Net salary
► True
► ***False***

Question No: 9   (Marks: 1)   - Please choose one

Can we subtract a positive integer k from the identity matrix?
► Yes
► ***No***

Question No: 10   (Marks: 1)   - Please choose one

Net price =
► List price +trade discount

► ***List price - trade discount***

► List price /trade discount

► List price * trade discount

Question No: 11   (Marks: 1)   - Please choose one
Division. Symbol: / is a type of
► Comparison operators

► Concatenation operator

► Reference operators

► *__Arithmetic operators__*

Question No: 12   (Marks: 1)   - Please choose one
Given : List Price =5500Rs   , Discount = 850Rs, then Net Cost Price will be
► 6350 Rs

6350 Rs

► 5508 Rs

5508 Rs

► 5585 Rs

► *__4650 Rs__*

Question No: 13   (Marks: 1)   - Please choose one
To convert a number in percent (%) from a fraction, we do which of the following operation:
► add by 100

► subtract by 100

► multiply by 100

► *__divide by 100__*

Question No: 14   (Marks: 1)   - Please choose one
If A is the matrix of dimension 2×3 and I is the identity matrix of dimension 3×3. Then which of the following is true

► $AI = I$

►   **$AI = A$**
    ► $A + I = A$

► $A + I = I$

Question No: 15   (Marks: 1)   - Please choose one

If ratio of boys and girls in a class is 7: 5, which of the following can't be the total number of the students in the class?

   ► 36

   ► ***50***

   ► 60

   ► 120

Question No: 16   (Marks: 1)   - Please choose one

SLN returns the straight-line depreciation of an asset for

   ► Zero period

   ► ***One period***
   ► Two periods

   ► Three periods

Question No: 17   (Marks: 1)   - Please choose one

Assume you will work for the next 20 years and at the end of each year you will deposit $20,000 into a savings account. At the end of that 20 year period you will start withdrawing your retirement living expenses from that account at the beginning of every year. This financial plan involves a _____ problem while you are working and a _____ problem while you are in retirement.
   ► a present value of a dollar, future value of a dollar
   ► ***a future value of an annuity due, a present value of an annuity due***
   ► a future value of an annuity due, a present value of an ordinary annuity
   ► a future value of an ordinary annuity, a present value of an annuity due
   ► a future value of an ordinary annuity, a present value of an ordinary annuity

Question No: 18   (Marks: 1)   - Please choose one

$$A = \begin{bmatrix} 1 & 2 & 1 \\ 2 & 1 & 2 \\ 3 & 1 & 3 \end{bmatrix} \qquad B = \begin{bmatrix} 2 & 2 & 3 \\ 2 & 1 & 1 \end{bmatrix}$$

By multiplying the above two matrices we get the following result

$$C = \begin{bmatrix} 5 \\ 8 \\ 9 \end{bmatrix}$$

►

$$C = \begin{bmatrix} 9 \\ 7 \\ 17 \end{bmatrix}$$

►

$$C = \begin{bmatrix} 9 \\ 12 \\ 17 \end{bmatrix}$$

►

► *Given matrices cannot be multiplied*

Question No: 19   (Marks: 1)   - Please choose one

which of the following is linear equation

► *2x-3y=-6*

► x+x+x

► 520x²y²

► y^2 -3=0

Question No: 20   (Marks: 1)   - Please choose one

Given FC = Rs.5000 ,CM= Rs. 30 ,VC= Rs. 150 , Capacity = 320units then BEP in units =

. ►4500 units

. ►*167 units*

. ►33 units

. ▶16 units

Question No: 21   (Marks: 2)

Find the Discount where price is 2000 and discount rate is 12%.

Solution:

Price = 2000
Discount rate = 12%

Discount = Price * rate
Discount = 2000*12/100
Discount = 240

Question No: 22   (Marks: 3)

Calculate compound interest earned on Rs. 2250 invested at 8% per annum for 6 years

Solution

compound interest = (1-((1.08)^6))*2250=1320

Question No: 23   (Marks: 5)

If the Basic salary of an employee is Rs 8000 and Allowances are Rs 4,000 . What are the cost on account of 20 casual and 10 sick leaves per year if normal working days per month are 26?

Solution:

Cost of casual leaves per year = {18 / (26 x 12)} x 12000 x 12 = 8307.7 Rs
Cost of Sick leaves per year = {12 / (26 x 12) x 12000 x 12 = 5538.5 Rs.

Question No: 24   (Marks: 10)

The price of medicine inventory is Rs. 500,000.
The series discounts are 20%, 10%, 5%.
What is the single equivalent discount rate?
if Invoice was dated May 1st and 10% discount is offered if invoice is paid
up to 10thMay. What will be net payment for invoice value of Rs. 500,000 if
paid up to 10th May.

Solution

List Price=500,000

$D1=20\%$

$D2=10\%$

$D3=5\%$

Net price=N= L (1-d1)(1-d2)(1-d3)

$= 500,000(1-0.20)(1-0.10)(1-0.05)$

$= 342,000$

Single discounted rate is given by

Here we see   N=L(1-d)

$=500000(1-31.6\%)$

$=342000$

So we can say that …..**31.6%** is a single discounted rate

Payment over 10th of may= 500,000(1- 10%)

$= 450,000$