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$2013~2^{ND}$ CYCLE BUSINESS MATHEMATICS (SET ONE)

DURATION: 2 HOURS COEFFICIENT 3

Candidates are authorized to use the following;

- Non programmable calculators
- Financial tables

Multiple choice questions

Candidates are required to write down only the question number and the letter of the answer chosen.

1.	Given 1	that P(A	or B) = $\frac{1}{2}$	and $P(A)$	and B)	$=\frac{1}{-}$ find	D(R)
		4	- 5)	6 1 1114	I(D)

A) $\frac{59}{120}$ B) $\frac{19}{240}$ C) $\frac{29}{140}$ D) $\frac{19}{120}$

2. A study of 1000 randomly selected flights of a major airline showed that 755 of the flights arrived on time. What is the probability of a flight arriving on time?

A) $\frac{49}{200}$ B) $\frac{151}{200}$ C) $\frac{200}{49}$ D) $\frac{200}{151}$

- 3. Find the probability of answering the two multiple choice questions correctly if random guesses are made. Assume the questions each have 5 choices for the answer. Only one of the choices is correct.

 A) 0.004 B) 0.4 C) 0.02 D) 0.04
- 4. A card is drawn from a standard deck of 52 playing eards. Find the probability that the card is an ace or a heart

A) $\frac{7}{52}$ B) $\frac{4}{13}$ C) $\frac{3}{13}$ D) $\frac{2}{13}$

5. Eight quests are invited for dinner. How many ways can they be seated at a dinner table if the table

A) 362880

B) 45 C) 4030

D) 5040

A) 362880 B) 4.5 C) 40.30 D) 5040 6. Which of the following cannot be a probability?

A) -64 B) 0 C) 0.0001 D) $\frac{\sqrt{6}}{3}$

7. The distribution of master's degrees conferred by the university of Bamenda is listed below i.e. a student majors is only one subject

MajorMathsEnglishEnginneringBusinessEducationFreq.21620782172217

What is the probability that a randomly selected student with a master's degree major in Business, Education or Enginneering?

A) 0.334 B) 0.527 C) 0.473 D) 0.284

- 8. A delivery route must include stops at 6 cities. How many different routes are possible?

 A) 6 b) 46.656 C) 64 D) 720
- 9. The access code to a house's security system consists of nine digits. How many different codes are available if each digit can be repeated?

 A)512 B) 1e + 09 C) 387820 480 D) 0
- A)312 B) 1e + 09 C) 387820.489 D) 9

 10. Decide if the events A and B are mutually exclusive, not mutually exclusive. A student is selected at random.
 - a. the student is taking a math course
 - b. The student is a business course

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c. Not mutually exclusive D) Mutually	Exclusive	
11. The point at which no profit is made and no losses are	e incurred is said to be;	
A)Fixed cost point B) Contribution Margin	C) Break Even Point D) Contr	ibution Rate
12. Cost analysis provides the following information. Fix	red cost 20,000frs, variable cost,	30frs per unit,
selling price per unit 50frs. Contribution margin is;		
A)20frs B) 80frs C) 16frs D) 26	ofrs	
13. (M-1). If you want to multiply a number 7 to matrix		***
$B = \begin{pmatrix} 2 & 3 \\ 4 & 1 \end{pmatrix}$ the result is;	4400	
A) $\begin{pmatrix} 14 & 3 \\ 28 & 1 \end{pmatrix}$ B) $\begin{pmatrix} 2 & 21 \\ 4 & 7 \end{pmatrix}$ C) $\begin{pmatrix} 14 & 21 \\ 28 & 7 \end{pmatrix}$	$D\begin{pmatrix} 14 & 28 \\ 21 & 7 \end{pmatrix}$	
14. Given list price = 5500frs, Discount = 850frs, net cost	t price will be:	
A)6350frs B) 550frs C) 5585frs	D) 4650frs	
15. Convert 50% markup on sale to % marup on cost		
A)50% B) 100% C) 150%	D) 200%	
16. The unknown value on the proportion: $2:X = 3:9$ is		
A)5 B) 6 C) 7 D) 8		
17. John earned 8% profit on investment of 1000frs and	d in the next deal he has a lost	of 8% on the
earned amount. The original amount now is:		
A)100frs B) 993.6 C) 1004 D) no		
18. Identity matrix is also a matrix		
A)Square B) Triangular C) Diagonal D) A and C		
19. Nkeh calculated a correlation coefficient of 0.75	. Which of the following ref	lects the best
interpretation of this?		
A)Weak negative B) Positive C) Strong negative		
20. If variable cost is 120frs and contribution margin is 3	30frs. Then sale will be:	
A)1207frs B) 130frs C) 140frs D) 150frs		
21. What shall be compound interest earned on 750frs in	vested at 12% per annum for 8ye	ars?
A)1875frs B) 750frs C) 1107frs D) none of the	nese.	
22. The weight of a group articles are: 95, 105, 105, 110,	, 104, 112 and 90. The mean dev	iation is:
A)102.71 B) 58 C) 110 D) 104	0,	
23. The average due date of a series of 30 constant annui	ities of 10,000 frs each of the ann	ual compound
rate of 10.25%		
A)11years B) 12.7years C) 9years D) 12.07year		
24. Two capital 300,000frs and 200,000frs were investe	ed at 6% and 5% p.a. respectively	y at compound
interest. If these sums were invested on the same da	ay, how long will it take for the	future vale to
first to triple that of the second?		×
	2.4years D) 43.24years	
25. The prices of petroleum products witness the following		
	06 2007 200	
% increase 6.5% 8% 10.5	5% 15% 9%	
The geometric mean of price increase is	760/	
	2.76%	
26. What is the median of 2, 1, 5, 1, 1, 3, 4, 3, 1, 1, 5, 18	<u> </u>	Sec. 1
A) 2 B) 3 C)3.5 D), 2.5		

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	deviation in	Question	26 above	e is:					
A) 4.75	B) 4.55		3.03	D). 3	.75				
28. If $P(A/B) = 0$.	4 and P(B) =	0.3 find	P(AnB)	,					
A) 0.171	B)0.525		0.571	D). 0	120				
29. What is the ex	pected value			ility dist	ribution	ic.		#2	
X	100	150	r	200		250		350	
P(x)	0.1	0.2		0.3		0.3		0.1	
A) 175	B) 150 C		D). 2			1 0.5		0.1	
Question 30-33 are	e base on the	informat	tion below	w. An in	vestor in	ist increa	sed his c	anital and	the officia
values of his share	s and subscri	iption rig	hts are as	follows	for 10 c	onsecuti	ve dave i	n thousan	d franca
Value of 98	94	97	98	100	102	102	104	104	
hares (x)				100	102	102	104	104	101
Value of 6.5	5.4	6.3	6.4	6.9	8.1	7.5	7.4	7.4	7.3
ubscription 7	*						10		7.5
ight (y)	4				1				
0. The mean of X		B)	100 C) 0.	02	D) 94	- Comment		•	
1. The coefficient		n "a" is							
		0.02	D) 0.	864					
The linear same	alation anoff	icient het	Meen Mer	iable Yi	and Vi i)		
2. The linear corre	ciation coeffi	icicut bet	weeli vai	laule M	and 111	D AM			
A)0.228	B) 3.79	(C) (0.929	D) 5.6					1.
A)0.228 3. What is "b" A)	B) 3.79 (-15.866 B)	C) (C) (C) (C) (C) (C) (C) (C) (C) (C) (0.929	D) 5.6 C) -3.7	794	D) +3.79	14		
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