نموذج (١٠) لامتحان شهادة إتمام الدراسة الثانوية العامة ٢٠٢٥ / ٢٠٢٦ م

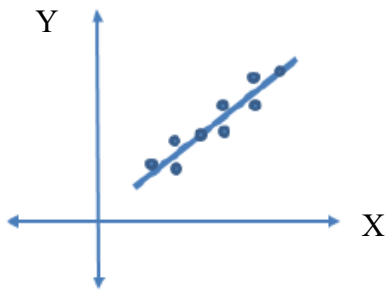
المادة : الإحصاء باللغة الإنجليزية (الشعبة الأدبية) الزمن : ثلاث ساعات

أولاً : الأسئلة الموضوعية (الاختيار من متعدد) "كل سؤال درجة واحدة"

(1)	If Z is a standard normal variable, then P (-2 ≤ Z ≤ 2) = ...						
(a)	0.4772	(b)	0.2386	(c)	0.9544	(d)	0.7942

(2)	If A and B are two independent events of the sample space of a random experiment, such that P(A) = 0.3 and P(B) = 0.6, then the probability of occurrence of the event A only = ...						
(a)	0.18	(b)	0.12	(c)	0.9	(d)	0.3

(3)	If the two points (15, m) and (9,6) lie on the line of regression of y on x, and if the correlation between x and y is perfect direct then m = ...						
(a)	18	(b)	16	(c)	14	(d)	12

(4)	From the opposite scatter diagram: The correlation between x and y is .....  						
(a)	Inverse	(b)	Nihilistic	(c)	Direct	(d)	Perfect inverse

(5)	From the opposite diagram: The range – the mode = ...						
(a)	8	(b)	12	(c)	20	(d)	29

Stem	Leaves
0	9
1	0 2 2 3 5 9
2	2 6 7 8 9

Key: 1 \| 3 =13

(6)	If the upper limit of a confidence interval of a sample mean equals 101.96 with a confidence level of 95%, and the arithmetic mean of the sample is equal to 100, then the estimation error equals						
(a)	1.49	(b)	50.98	(c)	201.96	(d)	1.96

(7)	If Z is a standard normal random variable, then P (- 2.35 ≤ Z ≤ 1) = ……						
(a)	0.3413	(b)	0.8319	(c)	0.4906	(d)	0.1493

(8)	If A and B are two events of the sample space of a random experiment, such that the probability of occurrence of A and B together = $\frac{3}{5}$, then P (A` ∪ B`) = …….						
(a)	$\frac{2}{5}$	(b)	$\frac{1}{15}$	(c)	$\frac{4}{5}$	(d)	$\frac{3}{15}$

(9)	From the opposite diagram: The semi-interquartile range = ……..	Stem | Leaves 2 | 2 4 5 7 3 | 0 1 2 3 5 9 4 | 2 6 7 8 9 Key: 3 | 3=33					
(a)	8.5	(b)	33	(c)	9.5	(d)	27

(10)	If X is a normal random variable whose mean 70 and standard deviation 10, then P (X≥ 100) = …….						
(a)	0.9978	(b)	0.1179	(c)	0.4987	(d)	0.0013

ثانياً : الأسئلة الموضوعية (الاختيار من متعدد) "كل سؤال درجتان"

(11)	If X is a continuous random variable, its density function is: $f(x) = \begin{cases} \frac{2x+k}{24}, & 1 \le x \le 4 \\ 0, & otherwise \end{cases}$ then k = ……..						
(a)	1	(b)	2	(c)	3	(d)	4

(12)	From the following frequency table: Sets: 5- | 10- | 15- | 20- | 25- | 30- Frequency: 5 | 12 | 18 | 16 | 10 | 4 The second quartile = …….						
(a)	24.3	(b)	19.3	(c)	14.7	(d)	21.5

(13)	In a statical study, the standard deviation equals 30, the estimation error is, 5.88 then the sample size at a confidence level 95% equals …….						
(a)	100	(b)	50	(c)	25	(d)	20

(14)	If the regression line equation of y on x is $\hat{y} = 0.4\ x + 15$, then the expected value of y at x = 10 is …….						
(a)	12	(b)	13	(c)	15	(d)	19

(15) If X is a discrete random variable whose mean $\mu = 3$ and its probability distribution is

x_r	0	k	3	4
f (x_r)	m	$\frac{1}{6}$	4m	5m

Then m × k = ……

(a)	$\frac{4}{5}$	(b)	$\frac{1}{5}$	(c)	$\frac{1}{6}$	(d)	$\frac{5}{6}$

(16) From the opposite diagram:
The first quartile = …….

Stem	Leaves
2	2 4
3	0 1 2
4	2 6 7

Key: 4 | 7 =47

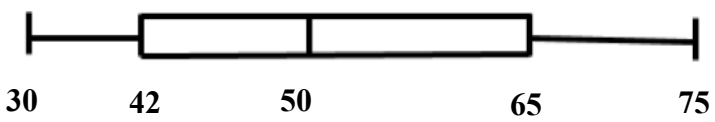
(a)	21	(b)	25.5	(c)	40	(d)	31.5

(17)	If the the confidence interval of a sample of size is]15.36,18.64[, using the confidence level of 95%, then the arithmetic mean =…….						
(a)	1.64	(b)	19	(c)	1.96	(d)	17

(18)	Ahmed wrote 75 letters, he found that 60% of them without mistakes, Mona wrote another 25 letters, she found that 80% of them without mistakes, if a letter is chosen at random from these letters written by both Ahmed or Mona, then the probability that this letter is without mistakes = ……..						
(a)	0,01	(b)	0.65	©	0.05	(d)	$\frac{1}{30}$

(19)	In a study of the relation between two variables *x*, *y* such that: $\sum x = 36$, $\sum y = 60$, $n = 12$, where n is the number of values, if the relation between x and y is nihilistic, then $\sum x\, y =$ …….						
(a)	180	(b)	200	(c)	160	(d)	170

(20)	In a study of the relation between two variables *x*, *y* if: $\sum x = 120$, $\sum y = 100$, $\sum x^2 = 720$, $\sum x\, y = 516$, n = 40, then at x =10 the value of y = ……						
(a)	5.6	(b)	0.7	(c)	0.6	(d)	6.7

(21)	from the opposite box plot: the semi-interquartile range =…… 						
(a)	22.5	(b)	7.5	(c)	11.5	(d)	17.5

(22)	A bag contains 10 red balls and 6 blue balls. If two balls are drawn one after the other (without replacement), then the probability that the second ball is a red ball, and the first ball is a blue ball = ……..						
(a)	$\frac{5}{8}$	(b)	$\frac{1}{4}$	(c)	$\frac{3}{8}$	(d)	$\frac{2}{3}$

---

(23) From the following table:

x	Very good	weak	good	pass	Excellent
y	pass	Excellent	good	Very good	weak

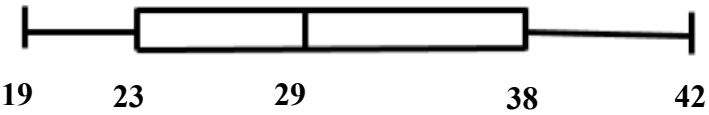
The Spearman's correlation coefficient between x and y = …….

(a)	- 0.5	(b)	$-\frac{2}{3}$	(c)	$-\frac{3}{5}$	(d)	- 1

(24) If A and B are two mutually exclusive events of a sample space of a random experiment, P(A) = 0.2 and P(B)= 0.3, then the probability of occurrence of one of the two events at least =……

(a)	0.06	(b)	0.1	(c)	0.05	(d)	0.5

(25) from the opposite box plot



The second quartile = ……

(a)	29	(b)	23	(c)	38	(d)	19

(26) If X is a discrete random variable whose expectation = 0.9,
$\sum x^2{}_r \times f(x_r)$= 25.81, then the standard deviation = …….

(a)	25	(b)	9	(c)	5	(d)	81

(27) The opposite table represents the random distribution of the random variable X

x_r	1	3	4	5
f (x_r)	0.4	0.1	0.2	0.3

then, the coefficient of variance = ……. %

(a)	367.4	(b)	57.7	(c)	163.3	(d)	78.2

(28)	If X is a normal random variable with mean μ and standard deviation σ , then P ($\mu - \frac{1}{4}\sigma \leq X \leq \mu + \frac{1}{2}\sigma$) = …….						
(a)	0.1915	(b)	0.3944	(c)	0.0978	(d)	0.2902

(29)	If the regression line equation is $\hat{y}$ = 0.2 x + 3, and the error in value of y is 2.6, then the table value at x=10 could be equals ……						
(a)	2.2	(b)	1.2	(c)	2.4	(d)	2.3

(30)	From the opposite diagram: If the range = 27 then m = ……						
(a)	7	(b)	6	(c)	5	(d)	4

Stem	Leaves
3	0 4
4	1 1 2
5	2 6 m

Key: 4 | 1 =41

(31)	If A and B are two events of the sample space of a random experiment, such that P (B) = 0.25, P (A – B) = 0.45, then P (A` / B`) = …….						
(a)	0.3	(b)	0.4	(c)	0.5	(d)	0.6

(32)	If X ~ B (15,0.6) then, P (X=7) = ……						
(a)	0.8819	(b)	0.2271	(c)	0.5564	(d)	0.1181

(33)	If X is a discrete random variable whose range {-2, m,1,2} and its probability distribution is given by the relation f (x) = $\frac{x+4}{16}$, then the variance of the random variable X = ……						
(a)	1,5	(b)	2	(c)	2.1	(d)	3

ثالثاً: الأسئلة المقالية " كل سؤال درجتان"

(34)	Two soldiers A and B shot a bullet at the same target , if the probability that the first soldier hit the target = 0.4 and the probability that the second soldier to hit the target = 0.7, find the probability that the solider A only will hit the target.

(35)	When throwing a coin once and observing the upper face, if the head represents success. What is the probability of success in the first time at the fifth trial?