



Sohag University



حاصلة على شهادة الاعتماد من الهيئة القومية لضمان جودة التعليم والاعتماد
منذ 2012/7/12م وعلى شهادة الاعتماد طبقا لمتطلبات المواصفات الدولية
ISO9001:2015/ISO21001:2018



Faculty of Science



Final Exam of **Statistics** (Course Code: **MATH245**)

for 2nd level students credit hours – **Chemistry program**

2nd Semester – Academic Year 2022/2023

Exam date: 7/06/2023 Time: 2 hours Examiner: Dr. Alwageh A. Farghal
Total mark: 40 marks Pages: 2

SPECIAL INSTRUCTIONS: **CALCULATOR IS PERMITTED;**

Answer the Following Questions: [40 Marks, 2.0 points each]

Choose the correct answer by using the following data:

Class Interval	121-128	129-136	137-144	145-152	153-160
Frequency	5	14	12	7	2

1-The mean of this data is

(A) 136.9 (B) 139.7 (C) 137.9 (D) None of these

2 – The median of this data is

(A) 137.0833 (B) 137.1667 (C) 138.2669 (D) None of these

3- The percentile 35 (P_{35}) of this data is

(A) 133.643 (B) 135.643 (C) 133 (D) None of these

4- The percentile 90 (P_{90}) of this data is

(A) 149.50 (B) 150.214 (C) 151.214 (D) None of these

5-The mode of this data is

(A) 136.9 (B) 134.05 (C) 135.05 (D) None of these

6- The variance of this data is

(A) 72.4769 (B) 73.4769 (C) 74.4769 (D) None of these

7-The standard deviation of this data is

(A) 8.133 (B) 8.5133 (C) 8.5719 (D) None of these

8- The coefficient of variation of this data is

(A) 6.216 % (B) 7.216 % (C) 8.216 % (D) None of these

Choose the correct answer:

9- The set of all possible outcomes of an experiment is called the.....

(A) Event (B) Sample Space (C) Random experiment (D) None of these

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- 10-If A and B are mutually exclusive events, then: $P(A - B) = \dots$
 (A) $P(B) - P(A \cap B)$ (B) $P(B)$ (C) $P(A)$ (D) None of these
- 11-If the events A and B are independent, then: $P(B | A) = \dots\dots\dots$
 (A) $P(A)$ (B) $P(B)$ (C) $\frac{P(A \cap B)}{P(B)}$ (D) None of these

.....
 In a certain assembly plant, three machines A, B and C produced respectively 50%, 30 % and 20% of the total number of items of a factory. The percentages of defective output of these machines are 3%, 4% and 5%. If an item is selected at random:

- 12-The probability that the item is effective equals:
 (A) 0.37 (B) 0.037 (C) 0.963 (D) None of these
- 13-The probability that the item is defective equals:
 (A) 0.963 (B) 0.037 (C) 0.63 (D) None of these
- 14-Suppose an item is selected at random and is found to be defective, the probability that the item was produced by the machine B equals:
 (A) 0.3243 (B) 0.0120 (C) 0.6934 (D) None of these
- 15-Suppose an item is selected at random and is found to be effective, the probability that the item was produced by the machine A equals:
 (A) 0.4850 (B) 0.5036 (C) 0.6934 (D) None of these

.....
Choose the correct answer by using the following data:

X	305	313	297	289	233	214	240	217
Y	592	603	662	607	635	699	719	747

- 16 – The value of $(\sum X^2)$ of this data equals.....
 (A) 567574 (B) 567498 (C) 569745 (D) None of these
- 17 – The value of $(\sum Y^2)$ of this data equals.....
 (A) 3487562 (B) 345784 (C) 3459875 (D) None of these
- 18 – The value of $(\sum XY)$ of this data equals.....
 (A) 1375635 (B) 1353654 (C) 1373536 (D) None of these
- 19-The Coefficient Pearson Correlation (r) of this data equals.....
 (A) - 0.798 (B) 0.798 (C) 0.58 (D) None of these
- 20- The type of Correlation of this data is
 (A) Moderate negative correlation (B) Weak negative correlation
 (C) Strong negative correlation (D) None of these

.....
My best wishes with success *** Dr. Alwageh. A. Farghal, 2023**



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Faculty of Science



Final Exam of (*Statistics* – 332M) for 3rd level students– (Geophysics)

– faculty of science

2nd Semester – Academic year 2022/2023.

Exam date: 22/06/2023	Time: 2 hours	Examiner: Dr. Alwageh A. Farghal
Total mark: 80 marks	Pages: 2	

SPECIAL INSTRUCTIONS: CALCULATOR IS PERMITTED;

Answer the Following Questions: [80 Marks, 4.0 points each]

Choose the correct answer:

The probability that a regularly scheduled flight departs on time is $P(D) = 0.71$; the probability that it arrives on time is $P(A) = 0.74$; and the probability that it departs and arrives on time is $P(D \cap A) = 0.62$.

- The probability that a plane arrives on time given that it departed on time equals
(A) 0.798 (B) 0.873 (C) 0.783 (D) None of these
- The probability that a plane departed on time given that it has arrived on time equals
(A) 0.8378 (B) 0.8278 (C) 0.5878 (D) None of these
- The probability that a plane arrives on time given that it did not depart on time equals
(A) 0.4238 (B) 0.4038 (C) 0.4138 (D) None of these

The events A, B and C have probabilities $P(A) = 0.4$, $P(B) = 0.2$, $P(C) = 0.3$.

Furthermore, $A \cap C = \phi$, $B \cap C = \phi$, $A \cap B \cap C = \phi$ and $P(A \cap B) = 0.1$:

- The $P(B \cap A^c) = \dots\dots\dots$
(A) 0.2 (B) 0.3 (C) 0.1 (D) None of these
- The $P(A - B) = \dots\dots\dots$
(A) 0.2 (B) 0.3 (C) 0.1 (D) None of these
- The $P(A \cup B \cup C) = \dots\dots\dots$
(A) 0.9 (B) 1 (C) 0.7 (D) None of these
- The $P(B^c \cap C^c) = \dots\dots\dots$
(A) 0.4 (B) 0.5 (C) 0.3 (D) None of these
- The $P(A \cup B) = \dots\dots\dots$
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My best wishes with success

Dr. Alwageh. A. Farghal, 2023

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Faculty of Science



Final Exam of (**Biostatistics – 330M**) for 3rd level students– (Chemistry and Zoology program)

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- 4- The $P(B \cap A^c) = \dots\dots\dots$
(A) 0.2 (B) 0.3 (C) 0.1 (D) None of these
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- 6- The $P(A \cup B \cup C) = \dots\dots\dots$
(A) 0.9 (B) 1 (C) 0.7 (D) None of these
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إصدار (01) تاريخ الأصدار 2022/07/19



التاريخ: السبت ١٠/٦/٢٠٢٣ م
الزمن: ساعتان ٩-١١
الدرجة: ٥٠ درجة

كلية العلوم بسوهاج
قسم الرياضيات
المستوى: الثالث
الشعبة: رياضيات
المادة: توبولوجي 326 ر

Answer the following questions :

Choose the correct answer (2 Marks for each point)

- (1) Let $\tau = \{N, \phi, A_n = \{1, 2, 3, \dots, n\} : n \in N\}$ be a topology on N and $A = \{5, 7, 9, 20\}$. Then $A' = \dots$
- (a) A (b) A^c (c) $\{6, 7, 8, \dots\}$ (d) $\{1, 2, \dots, 20\}$
- (2) Let $\tau = \{N, \phi, A_n = \{n, n+1, n+2, \dots\} : n \in N\}$ be a topology on N and $A = \{5, 7, 9, 20\}$. Then $A^\circ = \dots$
- (a) A (b) A^c (c) $\{5, 6, 7, \dots\}$ (d) ϕ
- (3) Let $\tau = \{N, \phi, A_n = \{n, n+1, n+2, \dots\} : n \in N\}$ be a topology on N and $A = \{5, 7, 9, 20\}$. Then $b(A) = \dots$
- (a) A (b) A^c (c) $\{5, 6, 7, \dots\}$ (d) $\{1, 2, \dots, 20\}$
- (4) Let $\tau = \{N, \phi, A_n = \{1, 2, 3, \dots, n\} : n \in N\}$ be a topology on N and $A = \{5, 7, 9, 20\}$. Then $ext(A) = \dots$
- (a) A (b) A^c (c) $\{1, 2, 3, 4\}$ (d) $\{20, 21, 22, \dots\}$
- (5) Let $\tau = \{N, \phi, A_n = \{n, n+1, n+2, \dots\} : n \in N\}$ be a topology on N and $A = \{5, 7, 9, 20\}$. Then $\overline{A} = \dots$
- (a) $\{1, 2, \dots, 20\}$ (b) A^c (c) $\{5, 6, 7, \dots\}$ (d) A
- (6) In a cofinite topological space (N, τ) and $A = \{1, 2, 5\}$. Then $\overline{A} = \dots$
- (a) A (b) A^c (c) $\{1, 2, 3, 4, 5\}$ (d) N

(7) In a particular point topological space (N, P_3) and $A = \{1, 2, 3, 5\}$. Then $A^o = \dots$

- (a) A (b) ϕ (c) $\{1, 2, 3, 4, 5\}$ (d) N

(8) In an excluding point topological space (N, E_2) and $A = \{1, 3, 4, 5\}$. Then $b(A) = \dots$

- (a) A (b) A^c (c) $\{1, 2, 3, 4, 5\}$ (d) $\{2\}$

(9) In a particular point topological space (N, P_5) and $A = \{1, 2, 4, 5\}$. Then $\overline{A} = \dots$

- (a) A (b) A^c (c) $\{1, 2, 3, 4, 5\}$ (d) N

(10) In an excluding point topological space (N, E_5) and $A = \{1, 2, 4, 5\}$. Then $b(A) = \dots$

- (a) A (b) $\{5\}$ (c) $\{1, 2, 3, 4, 5\}$ (d) N

(11) Let $\tau = \{R, \phi, A_n = (n, \infty) : n \in R\}$ be a topology on R . Then

- (a) $\{n\}$ is open set (b) $\{n\}$ is closed set
(c) $(-\infty, n)$ is open set (d) $(-\infty, n]$ is closed set

(12) Let $\tau = \{R, \phi, A_n = (n, \infty) : n \in R\}$ be a topology on R and $A = [5, 12)$. Then $A' = \dots$

- (a) A (b) A^c (c) $(-\infty, 12]$ (d) $(-\infty, 12)$

(13) Let (R, τ) be a usual topological space and $A = \{\frac{1}{n} : n \in N\}$. Then $b(A) = \dots$

- (a) A (b) A^c (c) R (d) ϕ

(14) $\sigma = \{\{x, y\} : x, y \in X\}$ is a subbase for a

- (a) Discrete topology (b) Indiscrete topology
(c) Excluding point topology (d) Particular point topology

(15) In a usual topological space (R, U) then the relative topology on N is

- (a) Discrete topology (b) Indiscrete topology

(c) Excluding point topology

(d) Usual topology

(16) The constant function $f : (R, U) \rightarrow (R, U)$ is

(a) open, closed and continuous

(b) continuous, closed and not open

(c) continuous, open and not closed

(d) open, closed and not continuous

(17) The cofinite topological space (X, τ) is

(a) not T_1 -space

(b) T_1 -space

(c) T_2 -space

(d) not T_0 -space

(18) For a usual topological space (R, U) and $A_n = (-\frac{1}{n}, \frac{1}{n}) : n \in N$. Then

$$\left(\bigcap_{n=1}^{\infty} A_n \right)^o = \dots$$

(a) ϕ

(b) A_n

(c) $\{0\}$

(d) N

(19) For a cofinite topological space (X, τ) and $A_n = \{x_n\} : n \in N$. Then

$$\left(\bigcup_{n=1}^{\infty} A_n \right)' = \dots$$

(a) ϕ

(b) A_n

(c) X

(d) N

(20) $b(A) = \dots$

(a) $\bar{A} \cap (A^o)^c$

(b) $\bar{A} \cup A^o$

(c) $\bar{A} \cap A^o$

(d) $\bar{A} \cup \bar{A}^c$

(21) $ext(A) = \dots$

(a) $(A^o)^c$

(b) $\overline{(A^c)}$

(c) $(\bar{A})^c$

(d) \bar{A}

(22) $A \cup A' = \dots$

(a) A^o

(b) $b(A)$

(c) \bar{A}

(d) $ext(A)$

(23) For a subspace (A, τ_A) from the space (X, τ) and $B \subseteq A$. Then $\overline{B_A} = \dots$

(a) \bar{B}

(b) $B \cap \bar{A}$

(c) $A \cap \bar{B}$

(d) $\bar{B} \cup A$

(24) Let $\tau = \{X, \phi, \{a\}, \{b, c\}\}$ be a topology on $X = \{a, b, c\}$. Then (X, τ) is

- (a) T_0 -space (b) T_1 -space (c) T_2 -space (d) Otherwise

(25) The space (X, τ) is T_1 -space iff $\forall x \in X$,

- (a) $\{x\}^0 = \{x\}$ (b) $\{x\}' = \{x\}$ (c) $\overline{\{x\}} = \{x\}$ (d) Otherwise

انتهت الأسئلة مع أطيب الأمنيات بالتوفيق والنجاح،،،

أ.د/ صلاح الدين عباس أحمد

أ.د/ حسام الدين سيف الله عبد العزيز

د / السيد السنوسي حسين

نموذج رقم SP00QF140001

إصدار (٠١) تاريخ الأصدار ٢٠٢٢/٠٧/١٩