

# TC-03

## Business Statistics (Compulsory)

Time : 3 Hours]

[Max. Marks : 70

- Answer the following questions:
- (1) A person's weight is measured in kilograms. This is a quantitative variable.
  - (2) The number of students in a class is measured in numbers. This is a quantitative variable.
  - (3) The color of a flower is measured in colors. This is a qualitative variable.

1. (1) A person's weight is measured in kilograms. This is a quantitative variable. 04

(2) A person's weight is measured in kilograms. This is a quantitative variable. 06

Weight (x)	65	66	67	67	68	69	70	72
Height (y)	67	68	65	68	72	72	69	71

(3) A person's weight is measured in kilograms. This is a quantitative variable. 04

$N = 200, (A) = 80, (\beta) = 120 (AB) = 20$

$\frac{2}{\text{Total}}$

1. (1) A person's weight is measured in kilograms. This is a quantitative variable. 04

(2) A person's weight is measured in kilograms. This is a quantitative variable. 06

- (i)  $x$  and  $y$  are independent.
- (ii) A person's weight is measured in kilograms. This is a quantitative variable.
- (iii) A person's weight is measured in kilograms. This is a quantitative variable.

(3)  $Q = +1, -1$  and  $0$ . This is a qualitative variable. 04

2. (1) A person's weight is measured in kilograms. This is a quantitative variable. 04

(2) A person's weight is measured in kilograms. This is a quantitative variable. 06

Year	1984	'85	'86	'87	'88	'89	'90	'91
Sales	80	88	98	92	84	88	80	100
Year	'92	'93	'94	'95	'96	'97	'98	'99
Sales	84	96	92	104	116	112	102	114

- (•)  $\times 0-0 \rightarrow 0-0$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

ዓመት	$Q_1$	$Q_2$	$Q_3$	$Q_4$
1995	109	131	107	93
1996	86	122	110	90
1997	77	106	94	79
1998	85	114	98	85
1999	108	117	106	83

**ተያያዥ**

- 2. (ተ)  $\times 0-0 \rightarrow 0-0$  ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

- (ጊ) ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

06

$$\begin{matrix} & \begin{matrix} A & B \end{matrix} \\ \begin{matrix} A \\ B \end{matrix} & \begin{bmatrix} 0.2 & 0.15 \\ 0.4 & 0.2 \end{bmatrix} \end{matrix}$$

ሰው ልማት ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

- (•)  $\times 0-0 \rightarrow 0-0$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

ዓመት	2000	2001	2002	2003	2004
$\times 0-0$	12	15	25	22	26

- 3. (ተ) ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

- (ጊ)  $\times 0-0 \rightarrow 0-0$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

06

$\log 40 = 1.6021$ ,  $\log 48 = 1.6812$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

- (•) ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

**ተያያዥ**

- 3. (ተ) ሰው ልማት ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04

- (ጊ)  $\times 0-0 \rightarrow 0-0$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

06

ሰው ልማት ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

ዕድሜ (ዓመት)	ሰዎች A		ሰዎች B	
	ሰዎች	ሰዎች ለሰው ልማት	ሰዎች	ሰዎች ለሰው ልማት
0-10	6,000	180	4,000	160
10-20	10,000	50	15,000	60
20-60	30,000	240	24,000	240
60 ለሆኑ ሰዎች	4,000	200	7,000	210

- (•) ሰዎች  $u_0 = 8$ ,  $u_1 = 12$ ,  $u_2 = 19$ ,  $u_3 = 29$  ተጠቃሚ ለሆኑ ሰዎች ለሰው ልማት (Seasonal Indices) -ሰው ልማት...

04



(•) ተባብሮ ለ  $A = \begin{bmatrix} 2 & 1 & -2 \\ 3 & 2 & 1 \\ -1 & 0 & 1 \end{bmatrix}$  ተባብሮ ለ  $B = \begin{bmatrix} 1 & -1 & 3 \\ 2 & 1 & 2 \\ 3 & -1 & 4 \end{bmatrix}$  ለሚሰጠው  $2A + B$  ተባብሮ ለ  $A - 2B$  ስልጠና ይደረግ። **04**

**ተግባር**

5. (ተ) ለሁለት የሚሰጡ ስልጠናዎች ለተማሪዎች ለማድረግ የሚያስፈልጉ የጊዜ ሰዓቶች ለማግኘት የሚያስፈልገውን ስልጠና ይጠቅሙ። **04**

(ገ)  $7 + 77 + 777 + \dots$  የሚለውን ስልጠና ይጠቅሙ። **06**

(ሀ) ለሁለት የሚሰጡ ስልጠናዎች ለተማሪዎች ለማድረግ የሚያስፈልጉ የጊዜ ሰዓቶች ለማግኘት የሚያስፈልገውን ስልጠና ይጠቅሙ። **04**

