JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- DECEMBER 2024

BBA – III SEMESTER

COURSE CODE (CREDITS): 23BB1HS311 (4) MAX. MARKS: 35

COURSE NAME: STATISTICS FOR BUSINESS DECISIONS

COURSE INSTRUCTORS: Prof Amit Srivastava MAX. TIME: 2 Hours

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c)Make suitable assumptions wherever necessary.

<table>
<tr><th>Q.No</th><th>Question</th><th>CO</th><th>Marks</th></tr>
<tr><td>Q1</td><td>Write short notes on the following (max 50 words)
a) Secondary Data
b) Kurtosis
c) Central Tendency
d) Gini Coefficient</td><td>1</td><td>(1x4=4)</td></tr>
<tr><td>Q2</td><td>What is Multiple Regression and how does the inclusion of multiple independent variables in a regression model impact the interpretation of coefficients?</td><td>3</td><td>3</td></tr>
<tr><td>Q3</td><td>What are different tests of adequacy of Index Numbers? Briefly discuss with suitable notations-based examples.</td><td>3</td><td>3</td></tr>
<tr><td>Q4</td><td>Price (Rs) and Demand (kg) of a product is given below:
<table>
<tr><td>Price</td><td>110-111</td><td>111-112</td><td>112-113</td><td>113-114</td><td>114-115</td><td>115-116</td><td>116-117</td><td>117-118</td><td>118-119</td></tr>
<tr><td>Demand</td><td>500</td><td>540</td><td>550</td><td>580</td><td>600</td><td>680</td><td>730</td><td>800</td><td>900</td></tr>
</table>
How strongly price and demand are correlated?</td><td>4</td><td>4</td></tr>
<tr><td>Q5</td><td>Following data is given for sales (Rs lakhs) and advertisement expenditures (Rs thousands) are given below:
<table>
<tr><td></td><td>Sales</td><td>Advt Exp</td></tr>
<tr><td>Mean</td><td>36</td><td>85</td></tr>
<tr><td>Standard Deviation</td><td>11</td><td>8</td></tr>
</table>
The correlation coefficient between the two variable is 0.66. What will be the value of sales when advertisement expenditure is Rs 75,000?</td><td>4</td><td>4</td></tr>
<tr><td>Q6</td><td>From the following data calculate price index numbers for 2024 with 2012 as base by (i) Laspeyre's method, (ii) Paasche's method, (iii) Fisher's method:</td><td>4</td><td>6</td></tr>
</table>

Commodity	Quantity (units)		Value (Rs)	
	2012	2024	2012	2024
A	100	150	500	900
B	80	100	320	500
C	60	72	150	360
D	30	33	360	297

Q7	Two sets of indices, one with 2010 as base and the other with 2024 as base, are given below: Year 2010 2011 2012 2013 2014 2015 2016 2017 2018 Index A 100 110 120 190 300 330 360 390 400 Year 2018 2019 2020 2021 2022 2023 2024 Index B 100 105 90 95 102 110 96 You are required to splice the Index B to Index A.	**4**	**6**
Q8	Ten cards numbered 1 to 10 are placed in a box, mixed up thoroughly and then one card is drawn randomly. If it is known that the number on the drawn card is more than 3, what is the probability that it is an even number?	**2**	**2**
Q9	An urn contains 10 black and 5 white balls. Two balls are drawn from the urn one after the other without replacement. What is the probability that both drawn balls are black?	**2**	**3**