

Daffodil International University
Department of Electrical and Electronic Engineering Faculty of Engineering
Class test-02, Summer-2026, Sec: B
Course Code: 0542-221, Course Title: Probability & Statistics

Time: 30 Mints.

Marks: 15

1.	An Electrical and Electronic Engineering (EEE) student is conducting a lab experiment to study the effect of temperature ($^{\circ}\text{C}$) on the resistance (Ω) of a resistor. <table><tr><td>Temperature ($^{\circ}\text{C}$) (x)</td><td>10</td><td>15</td><td>20</td><td>25</td><td>30</td><td>35</td></tr><tr><td>Resistance (Ω) (y)</td><td>55</td><td>50</td><td>45</td><td>40</td><td>35</td><td>30</td></tr></table> i) Illustrate scatter plot ii) Calculate the correlation coefficient and Interpret the result. iii) Interpret the meaning of $r^2=90.5\%$ in this study.	Temperature ($^{\circ}\text{C}$) (x)	10	15	20	25	30	35	Resistance (Ω) (y)	55	50	45	40	35	30	12
Temperature ($^{\circ}\text{C}$) (x)	10	15	20	25	30	35										
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2.	Compare linear and non-linear correlation with suitable EEE related examples for each.	3														