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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | | |
| final design | **Course:** | **Data Mining** | **Course Code:** | **DS3002** | |
| **Program:** | **BS (Data Science)** | **Semester:** | **Fall 2025** | |
| **Date:** |  | **Total Marks:** | **10** | |
|  |  |  |  | |
| **Section:** | **BDS-5A** | **Max. Time:** | **10 min.** | |
| **Assignment:** |  |  |  | |
| \* | | | | |

**Question 1**

A data analyst at **FAST University** is investigating the relationship between the **annual salaries of AI professors (Y, in thousand dollars)** and three academic performance indicators:

* **Research Quality Score (X₁)** – an index measuring research quality based on peer reviews.
* **Years of Teaching Experience (X₂)** – total years of teaching at the university level.
* **Publication Impact Index (X₃)** – a metric evaluating the impact of research publications based on citations and journal rankings.

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| --- | --- | --- | --- | --- | --- |
| X₁ (Quality Score) | X₂ (Experience in Years) | |  | | --- | | **X₃ (Publication Impact)** | | |  | | --- | | **Y (Salary in $1000s)** | |
| |  | | --- | | 5.1 | | |  | | --- | | 8 | | |  | | --- | | 6.5 | | |  | | --- | | 45.2 | |
| |  | | --- | | 6.3 | | |  | | --- | | 15 | | 7.8 | |  | | --- | | 52.4 | |
| 4.7 | 5 | 5.9 | 38.1 |
| 7.2 | 12 | 8.2 | 55.6 |
| 5.8 | 10 | 7.1 | 48.3 |