**In Semester Examination - II, March 2022**

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| --- | --- |
| **Name of Subject: Statistical Decision Making** | **Question paper code:** BSC-AIML4012022 |
| **Subject code: BSC- AIML401** |
| **Time: 10:00 PM-11:00 PM** | **Duration: 1 hr** |
| **Maximum marks:** 20 | **Date: 18/4/2022** |

**Instructions:**

1. All questions are compulsory

2. Assume suitable data wherever necessary and state the assumptions made.

3. Diagrams / sketches should be given wherever necessary.

4. Use of logarithmic table, drawing instruments and non-programmable calculators is permitted.

5. Figures to the right indicate full marks.

6. Write Answer to each question on ANSWER SHEET of THAKUR SHEET/Ruling paper by Writing Your Roll NO and Name on EVERY page of SHEET and Upload same Answer sheet on GOOGLE CLASSROOM BY RESPECTIVE ROLL NUMBER, SUBJECT NAME & TIME Subjective Question paper.

**Que 2(a):** A sample of 12 fathers and their elder son gave the following data about their height in inches. Calculate the rank correlation coefficient.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Father | 65 | 63 | 67 | 64 | 68 | 62 | 70 | 66 | 68 | 67 | 69 | 71 |
| Son | 68 | 66 | 68 | 65 | 69 | 66 | 68 | 65 | 71 | 67 | 68 | 70 |

**[5 Marks]**

**OR**

**Que 2(b):** Fit the curve to the following data:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X | 1 | 2 | 3 | 4 |
| Y | 2.5 | 8 | 19 | 50 |

**[5 Marks]**

**Que 3(a):** The weight of mothers and daughters are given in the following table. Find the regression coefficients and estimate the expected average weight of daughter when the weight of mother is 64.5 kg.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Weight of Mother | 62 | 63 | 64 | 64 | 65 | 66 | 68 | 70 |
| Weight of Daughter | 64 | 65 | 61 | 69 | 67 | 68 | 71 | 65 |

**[5 Marks]**

**OR**

**Que 3(b):** Fit a straight line to the following data by least square method:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 0 | 1 | 2 | 3 | 4 |
| Y | 1 | 1.8 | 3.3 | 4.5 | 6.3 |