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21MAB301T-Probability and Statistics

| Sl.No.  | Tutorial Sheet - 3  | Answer  |        |    |    |    |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|---------|---|---------|--------|----|----|----|----|---|----|----|----|----|---|---|----|----|----|----|----|---|---|----|----|----|----|----|---|----|----|----|----|----|---|----|----|----|----|----|-----------------------------------|
| 1       | <p>Following table relates to production in kgs of three variable A, B and C of wheat</p> <table><tr><td>A</td><td>14</td><td>16</td><td>18</td><td>-</td><td>-</td></tr><tr><td>B</td><td>14</td><td>13</td><td>15</td><td>22</td><td>-</td></tr><tr><td>C</td><td>18</td><td>16</td><td>19</td><td>19</td><td>20</td></tr></table> <p>Is there any significant difference in the production of the varieties?</p>   | A       | 14     | 16 | 18 | -  | -  | B | 14 | 13 | 15 | 22 | - | C | 18 | 16 | 19 | 19 | 20 | <p>F = 1.13</p> <p>At %5 F = 4.26</p> <p>Varieties effects are the same</p> |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
| A       | 14  | 16      | 18     | -  | -  |    |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
| B       | 14  | 13      | 15     | 22 | -  |    |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
| C       | 18  | 16      | 19     | 19 | 20 |    |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
| 2       | <p>Yield of four strains of Grallipoli wheat planted in five randomized block in kgs per plot is given below:</p> <table><tr><td rowspan="6">Strains</td><td colspan="6">Blocks</td></tr><tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>A</td><td>32</td><td>34</td><td>34</td><td>35</td><td>36</td></tr><tr><td>B</td><td>33</td><td>33</td><td>36</td><td>37</td><td>34</td></tr><tr><td>C</td><td>30</td><td>35</td><td>35</td><td>32</td><td>35</td></tr><tr><td>D</td><td>29</td><td>22</td><td>30</td><td>28</td><td>28</td></tr></table> <p>Test for differences between blocks and differences between strains.</p> | Strains | Blocks |    |    |    |    |   |    | 1  | 2  | 3  | 4 | 5 | A  | 32 | 34 | 34 | 35 | 36  | B | 33 | 33 | 36 | 37 | 34 | C | 30 | 35 | 35 | 32 | 35 | D | 29 | 22 | 30 | 28 | 28 | <p>Fr = 9.28</p> <p>Fc = 1.98</p> |
| Strains | Blocks  |         |        |    |    |    |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|         |   |         | 1      | 2  | 3  | 4  | 5  |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|         | A   |         | 32     | 34 | 34 | 35 | 36 |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|         | B   |         | 33     | 33 | 36 | 37 | 34 |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|         | C   |         | 30     | 35 | 35 | 32 | 35 |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |
|         | D   | 29      | 22     | 30 | 28 | 28 |    |   |    |    |    |    |   |   |    |    |    |    |    |   |   |    |    |    |    |    |   |    |    |    |    |    |   |    |    |    |    |    |                                   |