NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY ,GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

Session: 2021-2022

Assignment I

Subject Name & Code: Statistics and Probability (AAS0303)

<table>
<tr><td></td><td></td><td></td></tr>
<tr><td>1</td><td>A</td><td>Define Time series and its components and applications.</td></tr>
<tr><td></td><td>B</td><td>Differentiate between multiple correlation and partial correlation.</td></tr>
<tr><td>2</td><td>A</td><td>Calculate Karl Pearson coefficient of correlation from the following data.
<table>
<tr><td>X</td><td>18</td><td>20</td><td>21</td><td>22</td><td>27</td><td>27</td><td>28</td><td>29</td><td>29</td><td>29</td></tr>
<tr><td>Y</td><td>23</td><td>37</td><td>29</td><td>28</td><td>28</td><td>31</td><td>35</td><td>30</td><td>36</td><td>33</td></tr>
</table></td></tr>
<tr><td>3</td><td>A</td><td>Find the first four moment about mean, coeff. of Skewness and kurtosis of the following data.
<table>
<tr><td>Class Interval</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td><td>40-50</td></tr>
<tr><td>Frequency</td><td>10</td><td>20</td><td>40</td><td>20</td><td>10</td></tr>
</table></td></tr>
<tr><td></td><td>B</td><td>The equation of two regression lines, obtained in a correlation analysis of 60 observations are:$5x = 6y + 24\ and\ 1000y = 768x - 3608$.What is the correlation Coefficient?</td></tr>
<tr><td>4</td><td>A</td><td>Write regression equations of Y on X for the following data –
X :45 48 50 55 65 70 75 72 80 85
Y :25 30 35 30 40 50 45 55 60 65</td></tr>
<tr><td></td><td>B</td><td>Find Mode
<table>
<tr><td>Marks</td><td>30-40</td><td>40-50</td><td>50-60</td><td>60-70</td><td>70-80</td><td>80-90</td></tr>
<tr><td>No. of Students</td><td>18</td><td>37</td><td>43</td><td>27</td><td>15</td><td>8</td></tr>
</table></td></tr>
<tr><td>5</td><td>A</td><td>From the following data, calculate moments about assumed mean 25 and convert them into central moments:
<table>
<tr><td>X</td><td>0-10</td><td>10-20</td><td>20-30</td><td>30-40</td></tr>
<tr><td>F</td><td>1</td><td>3</td><td>4</td><td>2</td></tr>
</table></td></tr>
<tr><td></td><td>B</td><td>Fit a straight line trend by the method of least square (taking 1980 as year of origin) to the following data:
<table>
<tr><td>Year</td><td>1980</td><td>1981</td><td>1982</td><td>1983</td><td>1984</td><td>1985</td><td>1986</td></tr>
<tr><td>Production</td><td>125</td><td>128</td><td>133</td><td>135</td><td>140</td><td>141</td><td>143</td></tr>
</table>
And obtain the trend values.</td></tr>
</table>