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Department of Electrical and Electronic Engineering Faculty of Engineering

Class test-03, Summer-2026, Sec- E

Course Code: 0542-221, Course Title: Probability &Statistics

Time: 30 Mints. **Marks: 15**

<table>
<tr>
<td>1.</td>
<td>A survey was conducted among 70 Electrical Engineering students regarding their preferences for AC Machines and DC Machines. The students belong to three specialization groups:
<table>
<tr><th>Group</th><th>AC Machines</th><th>DC Machines</th></tr>
<tr><td>Power System</td><td>25</td><td>15</td></tr>
<tr><td>Control Systems</td><td>15</td><td>15</td></tr>
</table>
i) Calculate the probability that a randomly selected student prefers AC Machines.
ii) Compute the probability that a student is from Control Systems, given that they prefer AC Machines.
iii) Identify the probability that a student is either from Power System or prefers DC Machines.</td>
<td>6</td>
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<tr>
<td>2.</td>
<td>In a factory, the number of defects in a batch of 100 units with an average rate of 3 defects per batch. What is the probability that,
i. Exactly 2 defects occur in that batch?
ii. More than 4 defects occur in that batch?
iii. At most 2 defects occur in that batch?</td>
<td>9</td>
</tr>
</table>

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