



上海电力学院

课程教学大纲

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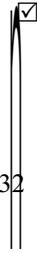
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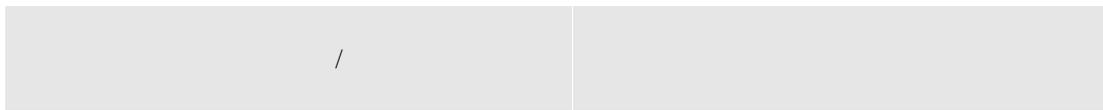
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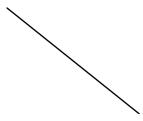
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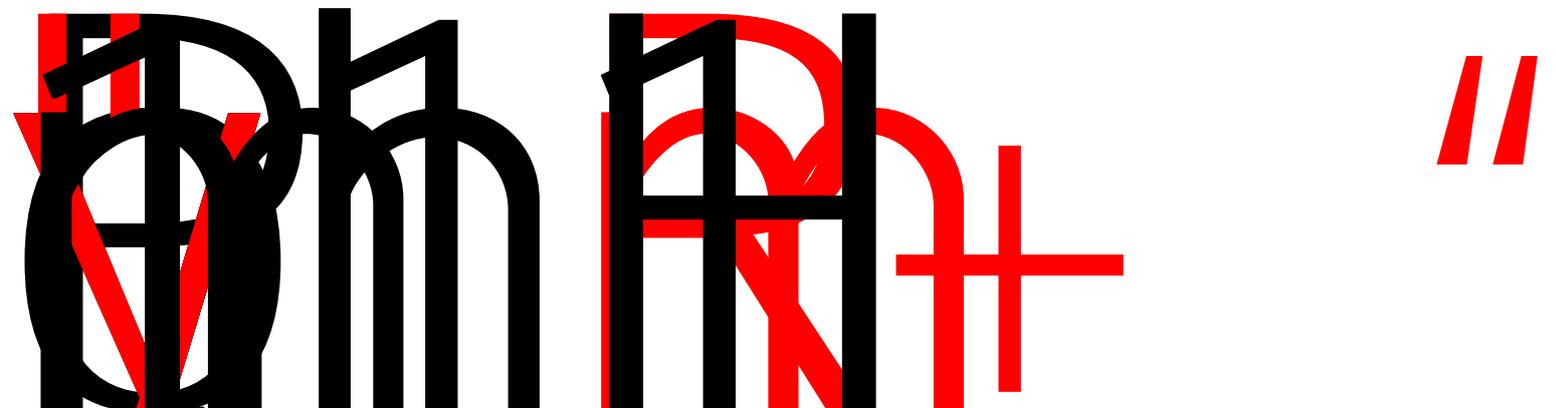
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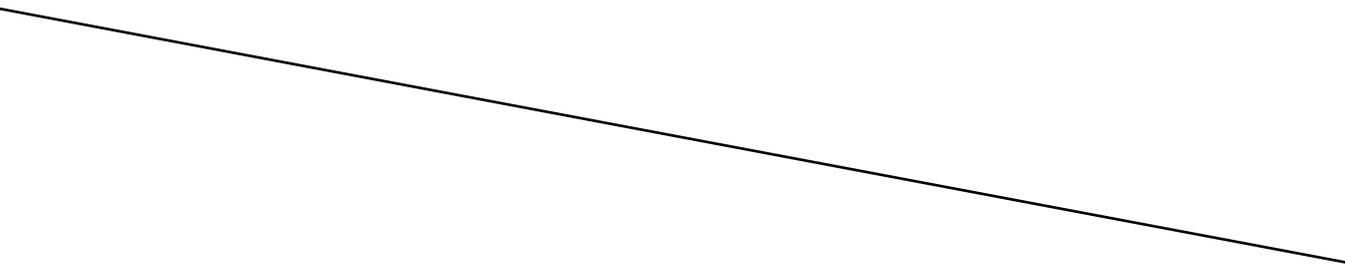
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上海电机学院商学院

| | | 90-100 | 75-89 | 60-74 | 0-59 |
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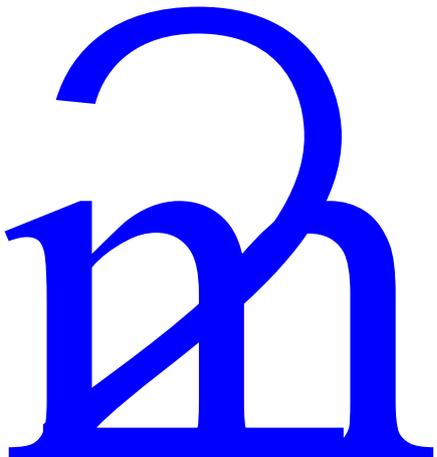
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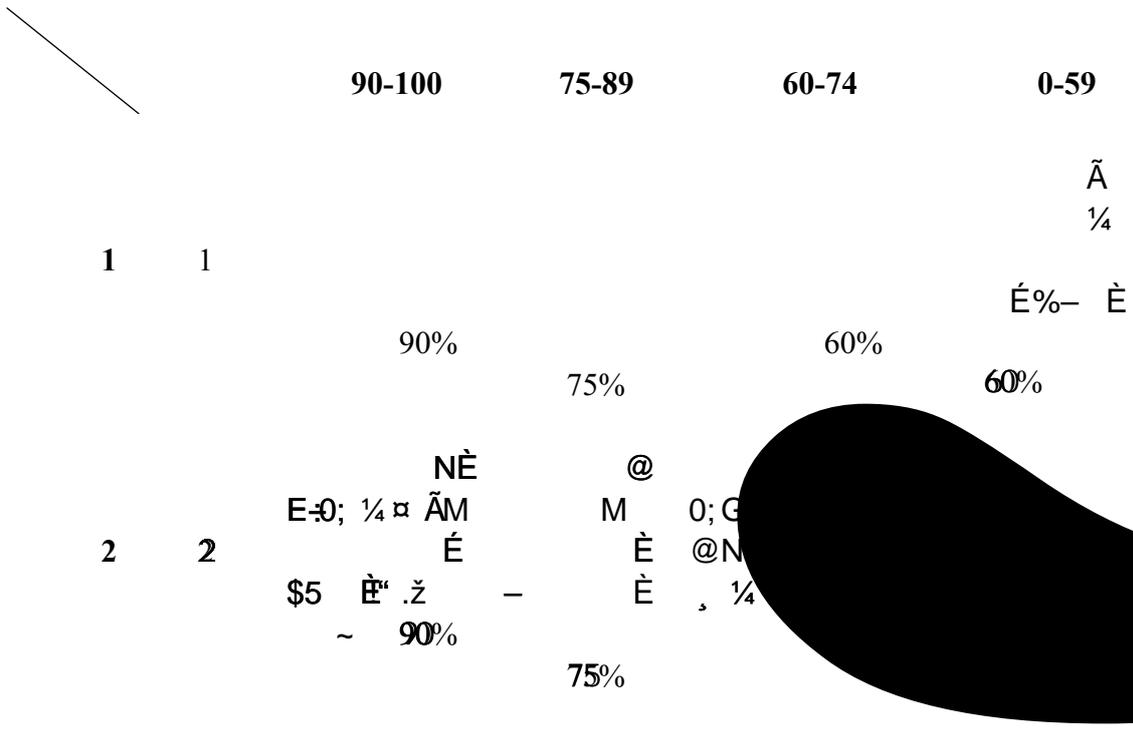
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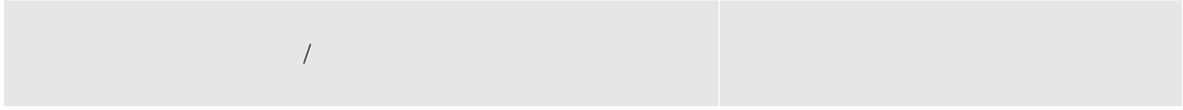
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[1] D. 3 [M]. , 2023,

1.

[2] Tableau [M]. , 2020 1.

[3] Power BI [M]. , 2019, 9.

[4] POWERBI [M].

, 2019, 6.

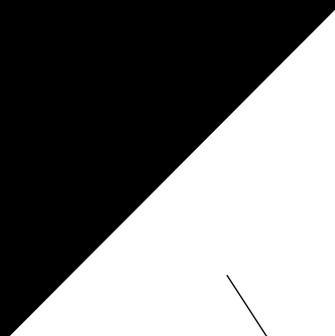
[5] EXCEL Power BI [M]. , 2018, 2.

[6] [M]. , 2018, 6.

[7] Microsoft Power BI [M]. , 2018, 2.

[8] Power Query Excel Power BI M [M].

, 2018, 9.



100- 90

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74- 60

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