

Total No. of Questions – [03]

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PRN No.	
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Paper Code	0321-261C(ESA)
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MAY 2022 ENDSEM EXAM
T.Y. B. Tech. (MECHANICAL) (SEMESTER - II)
COURSE NAME: DESIGN FOR MANUFACTURING AND ASSEMBLY
COURSE CODE: MEUA32181C
(PATTERN 2018)

Time: [1 Hr]

[Max. Marks: 30]

Instructions to candidates:

- 1) Figures to the right indicate full marks
- 2) Use of scientific calculator is allowed
- 3) Use suitable data where ever required

- Q.1
- a) Explain the importance of DFMA in the Sheetmetal manufacturing process. The ratio of the distance between the edge of a countersink hole and a bend to the sheet thickness should be greater than or equal 4.0. Justify it [4]
- b) Illustrate the design recommendations for the component shown in figure 1. If the component is produced using an additive manufacturing process [6]

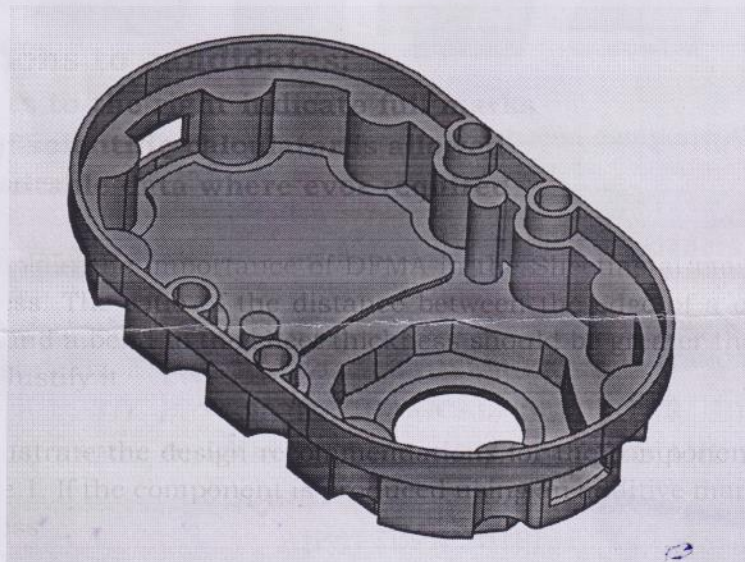


Fig. 1

OR

- b) Explain design recommendations for the component produced using the Sheetmetal manufacturing process shown in figure 2.

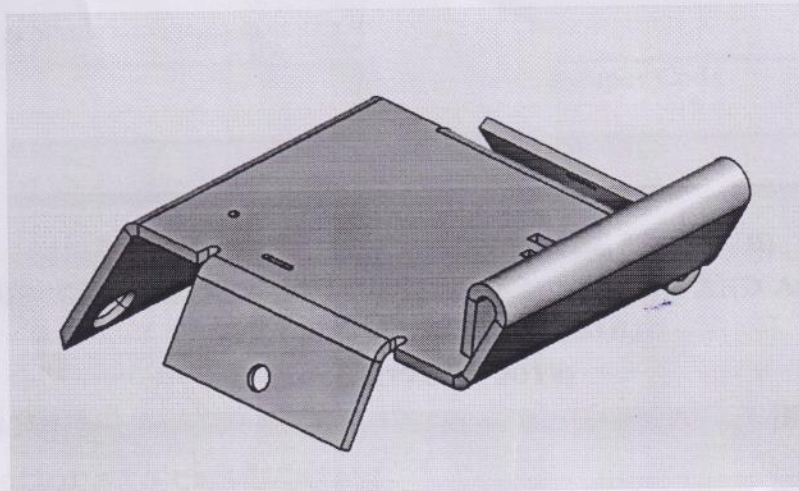


Fig. 2

Q2

- a) Weld strength design recommendation is one of the most important considerations. Justify this with an example.

[4]

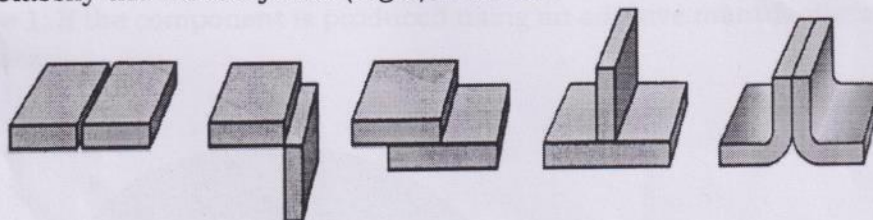
[6]

- b) A company manufactures the component using Brazing. During the design of the component for brazing, explain the design recommendations the design engineers should consider.

OR

- b) Classify the welded joints (Fig 3) in brief.

[6]



Q.3

- a) Illustrate the Minimum clearance between components rule in assembly design,

[4]

[6]

- b) Explain the Design recommendation for the fasteners in assembly

OR

- b) Compare the top-down approach and bottom-up approach for the assembly. Explain in detail any one design consideration for assembly

[6]