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*Paper Code - P119-153(T1)*

**OCTOBER 2019 / INSEM (T1)**

**F. Y. M. TECH. (DESIGN ENGINEERING) (SEMESTER - I)**

**COURSE NAME: DESIGN FOR MANUFACTURING AND  
ASSEMBLY**

**COURSE CODE: MEPA11183B  
(PATTERN 2018:R1)**

Time: [1 Hour]

[Max. Marks: 20]

**(\*) Instructions to candidates:**

- 1) Answer Q.1 OR Q.2, Q.3 OR Q.4
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1) List the following mentioned factors affecting tension and compression test wherein the specimen is subjected to a gradually increasing uniaxial load until failure occurs.

- Variables related to test specimen (size and shape effect)
- Variables related to testing machine (strain rate, rigidity of machine, load and extension measuring device, gripping arrangement) [10]

**OR**

Q.2) What is DFMA? State the steps for applying DFMA in product design. Also, state advantages for applying DFMA during product design and reasons for not implementing DFMA. [10]

Q.3) State the rules and factors that are important in design that is related to the manufacture of sand and engineered castings. [10]

**OR**

Q.4) State the design guidelines that need to be considered for die casting. Also, state specific design recommendations for wall thickness, ribs and fillets in die casting. [10]

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