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Total number of printed pages – 2

B. Tech
PCME 4401

Seventh Semester (Special) Examination – 2013
PRODUCT DESIGN AND PRODUCTION TOOLING

BRANCH : MECH

QUESTION CODE : D 474

Full Marks – 70

Time : 3 Hours

Answer Question No. 1 which is compulsory and any **five** from the rest.
The figures in the right-hand margin indicate marks.

1. Answer the following questions : 2×10
- Difine Product design.
 - What are the difference between jigs and fixture ?
 - Difine percentage of scrap.
 - Write down the difference between single impression die and multiimpression die.
 - What is the function of flash gutter ?
 - Write the difference between direct expenses and indirect expenses.
 - Explain the purpose of process planning.
 - Explain hole base system of fit.
 - What are the advantages of limit gauges ?
 - What are the functions of riser in casting ?
2. (a) Write a note on different types of getting system used in casting. 5
- (b) What is Aspiration effect ? Drive the expression to avoid it. 5

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3. (a) Find out the die and punch size for manufacturing the washers of outside diameter 20 mm and inside diameter 10 mm from them.s. plate of thickness 2.5 mm. Also find out the press capacity assuming related data. 6
- (b) Write the difference between compound die and combination die. 4
4. (a) What are the allowances used in forging die design ? 5
- (b) Explain the basic rules for die design for upset forging. 5
5. (a) Write a note on different type of drill buses. 5
- (b) Explain with diagram the Indexing jig. 5
6. (a) What is a guagr ? Explain Taylors' principle of limit gauging. 5
- (b) Design the gauge for hole of size 50 ± 0.1 mm. 5
7. (a) Discuss the various steps in the processes planning. 5
- (b) Write down the steps for designing a single point cutting tool. 5
8. Write short notes the following : 5x2
- (a) Geometric tolerance
- (b) Form tool
- (c) Shear in press tool
- (d) Drop fugging and Press fogging.

