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Name of Examination : **Winter 2020** - (Preview)

Course Code & Course Name : **ME304UD - Professional Elective-I -Production Technology**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

1) Solve any three sub questions.

- a) State any three advantages of standardization and give two examples of standardized products. [4]
- b) Compare Job order, Batch and Mass production systems based on equipment used, type of building used, type of layout used and type of flow. [4]
- c) Describe with suitable example of external screw threading when it is to be designed for production. [4]
- d) Derive equation for economical batch quantity. [4]

2) Solve all three sub questions.

- a) List any four factors cause the heat generation during machining. How this heat generated affect the metal cutting. [4]
- b) How the cutting temperature is measured with the help of tool work thermocouple in machining? Describe with help of figure. [4]
- c) State any four disadvantages of using cutting fluids. [4]

3) Solve any three sub questions

- a) State any two advantages, two disadvantages and applications of gear hobbing. [4]
- b) Describe the gear shaving process with the help of figure. [4]
- c) Why thread rolling has become the most commonly used method for thread manufacturing? [4]
- d) List any four characteristics of thread milling. [4]

4) Solve any three sub questions.

- a) State any four design principles for drilling jigs. [4]
- b) Differentiate between jig and fixture. Write any four differences. [4]
- c) State any four points should be considered for a lathe fixture. [4]
- d) What is mean by 'fool proofing' as applied to jigs and fixtures? Describe with suitable example how it can be achieved? [4]

5) Solve any two sub questions.

- a) Describe the effect of shear on cutting forces in press work. [6]
- b) Differentiate between blanking and piercing. List any three press tool requirements. [6]
- c) Describe factors such as press used, production required and die cost that influence the strip layout. [6]

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