

**Institute of Engineering and Technology (IET-DAVV) Indore**

**II BE (Mechanical Engineering) PTDC Students**

**Manufacturing Processes Assignment**

*Last Date of Submission: 08 April 2017*

*Total Number of questions: 08*

Note: *Attempt all questions.* Answers should be brief and neatly written in your own handwriting & supplemented by diagrams/sketches/figures wherever required.

1. Mention the various types of Bonds used in the making of grinding wheels. Also mention the process of manufacture and their applications.
  2. What are the various surface grinding approaches possible? Write their individual advantages and applications? Give explanations for your reasoning.
  3. A high speed steel (70W18Cr4V1 variety) rod of 50 mm diameter x 250 mm length is to be manufactured to a tolerance of  $\pm 0.05$  mm. Describe the process to be used with a neat sketch and suggest the process parameters to be used. If the same job is to be produced in mass, What would be the production process best suited? Explain your answer.
  4. Give comparison of the various gear machining methods in terms of their application, accuracy and process.
  5. Write short notes on *any three* of the following: (i) Simple and Compound indexing using a dividing head (ii) Broaching and geometrical features of a broach (iii) Broaching methods and broaching machines (iv) Measurement of the screw thread profile.
  6. Briefly explain the ISO system of limits and Fits. Explain about the tolerance grades as standardised by ISO.
  7. (i) What are the differences in the vernier and micrometer as used for linear measurements?  
(ii) Write a short note on gauge blocks.
  8. Explain how the gauge tolerance and gauge wear are allocated in the design of limit gauges.
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