

(b) Explain the different types of production planning.

4+10

4. (a) Explain work sampling and its characteristics in brief.  
(b) Define the term 'inventory control'. What are their advantages and limitations? 6+8
5. (a) What are the important elements of TPM?  
(b) Explain the diagrams indicating the movement of man/material/equipment in the logical order. 6+8
6. (a) Mention the benefits of a formalized and effective Value Analysis process.  
(b) What is Value Analysis? Describe the different types of value analysis exercises. 4+10
7. (a) What do you understand by DFX and FMEA?  
(b) Discuss the KANO method, Taguchi method and, cause and effect analysis? 4+10
8. (a) What is product platform?  
(b) What is functional analysis and how tree diagram helps to describe the functions? 4+10
9. Explain the following :  
(a) Concurrent/Simultaneous Engineering  
(b) Quality Function Deployment (QFD)  
(c) Process Mapping

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**Code : 021726**

**B.Tech.7<sup>th</sup> Semester Special Examination,2016**

**Total Productivity, Maintenance & Value Engineering**

Time : 3 hours

Full Marks : 70

**Instructions :**

- (i) There are **Nine** questions in this paper.
- (ii) Attempt **Five** questions in all.
- (iii) **Questions No.1** is compulsory.
- (iv) The marks are indicated in the right hand margin.

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1. Choose the correct alternative (any seven): 2×7=14
    - i. The aim of value engineering is to
      - (a) find the depreciation value of a machine
      - (b) determine the selling price of a product
      - (c) minimize the cost without change in quality of the product
      - (d) all of the above
    - ii. In time study, the rating factor is applied to determine
      - (a) standard time of a job
      - (b) merit rating of the worker
      - (c) fixation of incentive rate
      - (d) normal time of a worker

- iii. Gantt chart is used for
- (a) inventory control
  - (b) material handling
  - (c) production schedule
  - (d) machine repair schedules
- iv. The main objective of scientific layout is
- (a) to produce better quality of product
  - (b) to utilize maximum floor area
  - (c) to minimize production delays
  - (d) all of these
- v. In value engineering, the term value refers to
- (a) manufacturing cost of the product
  - (b) selling price of the product
  - (c) total cost of the product
  - (d) utility of the product
- vi. work study examines
- (a) method
  - (b) duration of work
  - (c) both 'a' and 'b'
  - (d) None of the above
- vii. The correct order of procedure in method study is
- (a) Select-Record-Examine-Develop-Define-Install-Maintain
  - (b) Select-Define-Examine-Develop-Record-Install-Maintain

- (c) Select-Record-Develop-Examine-Define-Install-Maintain
  - (d) Select-Record-Examine-Define-Develop-Install-Maintain
- viii. In process charts, the symbol used for storage is
- (a) Circle
  - (b) Square
  - (c) Arrow
  - (d) Triangle
- ix. Delay occurs when
- (a) someone stops the process
  - (b) product wait for next event (operation)
  - (c) both 'a' and 'b'
  - (d) None of the above
- x. A milk powder tin is being weighed as it is filled is an example of
- (a) Operation cum transportation
  - (b) Operation cum inspection
  - (c) Transportation cum inspection
  - (d) None of the above
2. (a) Explain the terms CPM and PERT ?  
(b) Discuss the different techniques of work study and their relationships. Write the basic procedure of work study.
3. (a) Explain EOQ in brief.