Code No: RR412001 **Set No. 1**

IV B.Tech I Semester Regular Examinations, November 2005
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES
(Production Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Enlist the various recording techniques used in method study. Explain the various symbols utilized as recording techniques with their meaning. [16]
2. "Critical Examination is the crux (puzzle) of "Method study". Explain how and indicate the procedure of critical examination. [16]
3. (a) What do you understand by "work measurement"?
   (b) Seventy-five samples of a production cycle gave an average time of 5.28 min/piece. The performance rating was estimated as 110% and allowances are 25% of the total time available. What is standard time in minutes/piece? [8+8]
4. Describe the human problems likely to be encountered in the implementation of work study and how they should be dealt with. [16]
5. How should the Industrial Engg. Department be placed to run the organization effectively? [16]
6. Explain in brief.
   (a) Financial incentives
   (b) Non financial incentives
   (c) Individual incentives
   (d) Group incentives [4×4=16]
7. (a) What is training? Explain the benefits of training to the employees and the organization?
   (b) Explain the various steps involved in planning the training programmes? [8+8]
8. (a) Give an account of the various types of personal protective devices and the clothing which are used by workmen in industry with neat sketch.
   (b) What is employee safety? How safety is disrupted? Explain [8+8]

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Code No: RR412001 **Set No. 2**

IV B.Tech I Semester Regular Examinations, November 2005
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES
(Production Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What do you understand by productivity? In what units can it be expressed?
   (b) A manufacturing concern was producing 120 locomotives per year by employing 20,000 men in the past. To increase production they have now recruited 1,000 men more and as a result production has increased to 140 locomotives per year. Find:
      i. What was the labor productivity previously?
      ii. What is the labor productivity now?
      iii. What is the percentage increase in production and productivity? [8+8]

2. (a) Make a two handed chart of the operation of washing hands using a soap.
   (b) Write a brief note on recording techniques used in method study. [8+8]

3. State the advantages, disadvantages and practical application of time standard by 'Work Sampling Method'. What are the fundamental concepts behind the method? [16]

4. Enumerate the principles of motion economy in respect of
   (a) Arrangement of work place.
   (b) Design of tools and equipment. [8×2=16]

5. How does Industrial engineering help to improve productivity of an enterprise?[16]

6. (a) What do you understand by wage and salary? What are the characteristic differences between them?
   (b) Explain briefly the factors influencing the wages. [2×8=16]

7. Training program is frequently the first item that will be eliminated when management wants to cut costs? Why is it so? [16]

8. (a) Give an account of the various types of personal protective devices and the clothing which are used by workmen in industry with neat sketch.
   (b) What is employee safety? How safety is disrupted? Explain [8+8]

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Code No: RR412001 **Set No. 3**

IV B.Tech I Semester Regular Examinations, November 2005
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES
(Production Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. (a) What do you understand by productivity? In what units can it be expressed?
   (b) A manufacturing concern was producing 120 locomotives per year by employing 20,000 men in the past. To increase production they have now recruited 1,000 men more and as a result production has increased to 140 locomotives per year. Find:
      i. What was the labor productivity previously?
      ii. What is the labor productivity now?
      iii. What is the percentage increase in production and productivity? [8+8]
2. (a) What are the objectives and advantages of Work Study?
   (b) What is a 'simo chart'? explain with an example? [6×10=16]
3. (a) Describe the advantages and disadvantages of both Snap-back and Continuous method of using a stop watch.
   (b) What factors should be taken into account when rating an operation. [10+6]
4. (a) How can management help to reduce fatigue and increase worker output.
   (b) what is a therblig? How do we use them. [8+8]
5. (a) Explain the applications of network planning techniques in Industrial Engineering?
   (b) What are the expectations of management from I.E department? [2×8=16]
6. Describe the following methods of job evaluation? Discuss their merits and demerits also
   (a) Ranking method
   (b) Job classification method [2×8=16]
7. Why do organization often over look or lack proper evaluation of training and development programmes? [16]
8. (a) Why should employee and employer both be concerned about safety in industry?
   (b) Discuss the need for personnel protective equipment? [8+8]

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Code No: RR412001 **Set No. 4**

IV B.Tech I Semester Regular Examinations, November 2005
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES
(Production Engineering)

Time: 3 hours **Max Marks: 80**

Answer any FIVE Questions
All Questions carry equal marks

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1. Make out how work-study is useful for management, industrial productivity and the manpower employed. [16]

2. (a) Describe the suitable chart when the following situations have to be analyzed by 'Method Study':
   i. Movement of a petrol engine cylinder head through all machining operations.
   ii. Operators carrying out short cycle repetition work.
   (b) Bring out the importance of Critical Examination phase in method study with the help of a suitable example. [5×2=10+6]

3. (a) Distinguish Time study and Motion study.
   (b) A milling machine operator takes 15 minutes to complete the manufacture of a gear at a rating of 80 % . Calculate the standard time if the relaxation and contingency allowance are 8% and 2% respectively. [8+8]

4. (a) Explain the principles of motion economy as applied to human bosy?
   (b) What is Simo-chart? Explain with example [16]

5. (a) What is the scope of Industrial Engineering?
   (b) What is the importance of Industrial Engineering? [2×8=16]

6. Describe the following methods of job evaluation? Discuss their merits and demerits also
   (a) Ranking method
   (b) Job classification method [2×8=16]

7. (a) How does training of operators differ from training of executives? Explain.
   (b) Explain the need of training for foremen (supervisors). [2×8=16]

8. Justify the following statements.
   (a) "An Injury prevented is a benefaction, an injury compensated is an apology."
   (b) "Accidents are accidental, but their rate can be minimized by taking safety measures". [8+8]

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