

# Unit 11 - Week 09- Manual Work System

## Course outline

How does an NPTEL online course work?

Week 0

Week 01 - Introduction and Overview of Ergonomics

Week 02- Work Physiology

Week 03 - Physical ergonomics and introduction to Cognitive ergonomics

Week 04- Cognitive Ergonomics

Week 05 - Cognitive Ergonomics (Continued)

Week 06 - Physical Work Environment

Week 07 - Tools, Techniques & Research Methodology

Week 08- Work Study

Week 09- Manual Work System

Lecture 35- Motion Study

Lecture 36- Flow Diagram

Lecture 37- Time study

Lecture 38- Manual work System

Lecture 39- Worker Machine Systems

Quiz : Assignment\_09

Assignment\_09 Solution

Feedback For Week 09

Week 10- Industrial Accidents and Injuries

Week 11- Job evaluation in organizational ergonomics

Week 12- BioMechanics

Text Transcripts

DOWNLOAD VIDEOS

## Assignment\_09

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

**Due on 2020-04-01, 23:59 IST.**

1) The standard time using the following data is:

Element	Average Time	Rating Factor
1	0.435	1.2
2	0.521	1.05
3	0.239	1.02
4	0.366	1.13

Allowance factor= 15%

- 1.9854  
 1.8994  
 2.1552  
 1.6248

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
1.9854

1 point

2) A \_\_\_\_ records all events in sequence using process chart symbols with distance and time taken marked for each activity:

- Time chart  
 Outline process chart  
 Flow Process chart  
 None of the above

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Flow Process chart

1 point

3) After standardizing a task, the actual time varies due to:

- Extra elements not performed every cycle  
 Variations in hand and body motions  
 Blunders by worker  
 All of these

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
All of these

1 point

4) Which of the following must be true in every case:

- the normal time > the observed time.  
 the observed time < the mean time.  
 the standard time > the normal time.  
 the mean time > the measured time of one performance of the operation.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
the standard time > the normal time.

1 point

5) A man's usual route is 2.3 miles and he completes the route in 50 mins. The man's performance, if benchmark of normal performance = 3 miles/hr, is: **0 points**

- 23.3%  
 20%  
 17.5%  
 19%

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
20%

0 points

6) Which technique is useful for studying non-repetitive jobs?

- Work sampling  
 Micro-motion study  
 Motion study  
 Time study

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Work sampling

1 point

7) Level of operator attention for firefighters responding to alarms:

- Part time attention during each work cycle.  
 Periodic attention with regular servicing.  
 Full-time attention.  
 None of these.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
None of these.

1 point

8) As per motion economy principles which of the following is not true?

- Both the hand should remain idle except during rest period.  
 Both hands should start and complete their work simultaneously.  
 Motion of arms should be symmetrical and in opposite direction.  
 All of these.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Both the hand should remain idle except during rest period.

1 point

9) Analysis of Therbligs is used:

- for optimization of manual labour by eliminating unneeded movements.  
 for study of motion economy in the workplace.  
 for identification of individual motions and consequent delays in process.  
 all of these.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
all of these.

1 point

10) Which one of the following statements about stopwatch time studies is true?

- Repetitions are not usually timed.  
 Jobs that have varying task requirements can pose some difficulty.  
 Performance rating is not usually necessary.  
 There is no record of the method used by the worker.

No, the answer is incorrect.  
Score: 0

Accepted Answers:  
Jobs that have varying task requirements can pose some difficulty.

1 point