4479

BOARD DIPLOMA EXAMINATION, (C-14) MARCH/APRIL-2019 DME - FOURTH SEMESTER EXAMINATION

INDUSTRIAL ENGINEERING

Time: 3 Hours] [Max Marks: 80

PART -A

3x10 = 30M

Instructions: 1) Answer all questions.

- 2) Each question carries Three marks.
- 3) Answers should be brief and straight to the point and shall not exceed five simple sentences.
- Define Work study. List out two important techniques adopted in work study.
- 2) Differentiate between cycle graph and chrono-cycle graph.
- 3) Define standard data. State two uses of standard data.
- 4) List three advantages of PMTS.
- 5) Define the term job evaluation? State the purpose of job evaluation.
- 6) Define the term merit rating? State the purpose of merit rating.
- 7) Define the term Wage. List out two types of wages.
- 8) Define incentive. List out two objectives of incentive plans.
- 9) Distinguish between quality control and inspection.
- List out causes for erratic fluctuations in the production process with examples.

PART-B 5x10=50M

Instructions: 1) Answer any **five** questions.

- 2) Each question carries ten marks.
- 3) Answers should be comprehensive and the critertion for valuation is the content but not the length of answer.
- 11) (a) What is a SIMO chart? List out applications of SIMO chart. 4M
 - (b) Prepare a SIMO chart for a bolt and nut assembly in a manufacturing unit.
- 12) (a) What ia a multiple activity chart? List out objectives of multiple activity chart.4M
 - (b) Prepare a man machine chart to perfrom activities between two machines.
- 13) (a) Define standard time. How the standard time is calculated from observed time.

 4M
 - (b) Explain with a sketch the procedure of conducting time study by using a stop watch.
- 14) (a) Explain briefly (i) Rating scale method
 - (ii) Employee comparison methods of evaluating merit rating.4M
 - (b) Explain (i) Job analysis (ii) Job description. 6M
- 15) (a) Explain Halsey Premium Incentive Plan? List out two advantages of the plan.

 4M
 - (b) The standard time for a job is 8 hours and the hourly rate is

 Rs.15. Compute 6M
 - (i) The total wage of the worker
 - (ii) Earning of the worker per hour, if he completed the job in 6hours by Rowan Incentive Plan.

- 16) (a) Define Work sampling. State two advantages and disadvatages of work sampling.5M
 - (b) Explain five reasons of wage differentials.

5M

- 17) The following data was recorded for constructing Mean and Range charts. Sample Size is 6. Number of samples are 12. Calculate
 - (a) Upper and Lower control limits
 - (b) Draw Mean and Range charts.
 - (c) Comment on the process.

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sample number	1	2	3	4	5	6	7	8	9	10	11	12
Mean, $\frac{1}{x}$	325	315	285	510	410	300	430	290	210	250	350	325
Range,R	42	46	62	43	62	75	51	39	42	58	38	37

- 18) (a) Explain the procedure for accepting a lot by single sampling plan with the help of a flow chart.

 4M
 - (b) Explain floor inspection system. List its advantages and disadvantages.6M

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3