#### Evaluation Table

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**Remarks of Evaluator/Chief Evaluator:**

**Remarks of Scrutiniser:**

**Evaluator's Sign:**

**06/21-II**
Note: Attempt all the twenty questions. Each question carries 2 marks. Answer should not exceed 15 words.

1 Write the relation between, number of joints (J), number of higher pairs (H) and number of links (L) in a chain to make it a mechanism.

2 What type of contacts exists between elements of lower pairs and higher pairs? Give an example of each.

3 Define crowning of pulleys in flat belt drives with its use.
4  What are 'Mitre' gears?

5  List any three advantages of Value Engineering.

6  State Guest's theory of failure. For what type of materials this is applicable?
7. Define a forming process.

8. What is meant by break-even point?

10 Define kinematic link.

11 'Interferometry' can be used for inspection of what?

12 What is the function of a gauge?
13 List any four wages incentive plans.


14 State the names of various types of plant layout giving example of application industry.


15 What is meant by incentive scheme?
16 North-West corner method is used to solve which type of problems.


17 What is the economic lot size of an item with an annual demand of 900 pieces costing Rs. 100 per piece, when the ordering cost per order is Rs. 100 and holding cost is Rs. 2 per unit per year?


18 What is two person zero-sum Game?
19 Name various types of cutting tools.


20 What will be the change in wire size of compression spring with increase in allowable stresses?
PART – B

Note: Attempt all the twelve questions. Each question carries 5 marks. Answer should not exceed 50 words.

21 Explain D'Alembert's Principle.

22 Explain any two inversions of Slider-Crank kinematics chain mechanism and application.
23 Explain the principle of working of Ultra sound machining.

24 List the steps in Scientific Recruitment (Selection) procedure.
25 What do you understand by 'merit rating'? How is this carried out?

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26 Explain principle of EDM with the help of a neat sketch.
27 Explain difference and relationship between Administration, Management and Organization.

28 What do you understand by selective inventory control? Explain ABC analysis.
29 What is the purpose of performance appraisal? List important factors to be considered in such appraisal.

____________________________________________________________________________________

30 What is significance of "Economic lot size"? How is it obtained?

____________________________________________________________________________________
31 For Critical Path Method (CPM) define: Critical Activity, Crashing and Free Slack (float).

32 What is a 'Disc or Belleville' spring? Where are these kind of springs used?
PART - C

Note: Attempt any 5 questions. Each question carries 20 marks. Answer should not exceed 200 words.

33 M/s. Anupam Surachals which markets hypodermic needles to hospitals likes to reduce inventory cost by determining the optimal number of hypodermic needles obtained per order. The annual demand is 50,000 units, the set up or ordering cost is Rs. 500 per order and the holding cost per unit per year is Rs. 200. Using these data (figures) calculate:
(a) The optimum number of units per order
(b) Total annual inventory cost.
What do you mean by interference? Derive an equation to find out minimum no. of teeth to avoid interference.
In epicyclic gear train shown below in fig., the annulus A rotates at 300 rpm about the axis of the fixed wheel S which has 80 teeth. The armed spider shown as 'a' in figure is driven at 180 rpm. Determine the number of teeth on the wheel P.
What is the purpose of Method Study? Explain the procedure adopted for Method Study.
Discuss the principles of scientific management given by F. W. Taylor.
Discuss various types of tool wears and mechanism of wear.
Using Taylor's Tool life equation, derive an expression for most economical cutting speed. Is this also most productive cutting speed? Justify your answer.