

University of Mumbai
Examination 2020

Program: BE Mechanical Engineering

Curriculum Scheme: Revised 2016

Examination: Third Year Semester V/VI or Final Year Semester VII/VIII

Course Code: **MEDLO5013** and Course Name: **Elective I: Design of Jigs & Fixtures**

Time: 1 hour

Max. Marks: 50

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Note to the students:- All the Questions are compulsory and carry equal marks .

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| Q1. | 3-2-1 principle also known as |
| Option A: | Six-point location |
| Option B: | Least points |
| Option C: | Extreme positions |
| Option D: | Mutually perpendicular planes |
| | |
| Q2. | Drill jig bushings are normally hardened to |
| Option A: | Protect the jig from damage |
| Option B: | Ensure prolonged life without wear and tear so as to guide the tool accurately |
| Option C: | Guide the tool so that it does not go inclined |
| Option D: | Allow the chips to come out easily. |
| | |
| Q3. | Number of the degree of freedom of a workpiece in space is equal to |
| Option A: | 10 |
| Option B: | 12 |
| Option C: | 16 |
| Option D: | 20 |
| | |
| Q4. | Principle of _____ states that "In order to achieve the maximum accuracy in location the locating points should, therefore, be placed as far apart from one another as it is possible". |
| Option A: | Six-point location |
| Option B: | Extreme position |
| Option C: | Least points |
| Option D: | Mutually perpendicular planes |
| | |
| Q5. | The following is a quick-acting clamp |
| Option A: | Hinged clamp |
| Option B: | Bridge clamp |
| Option C: | Cam operated clamp |
| Option D: | Edge clamp |
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| Q6. | The following material is commonly used for making locating and clamping devices |

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| Option A: | High carbon steel |
| Option B: | Low carbon steel |
| Option C: | High-speed steel |
| Option D: | Die steel |
| | |
| Q7. | The following type of jig is used to drill a series of the equidistant hole along a circle |
| Option A: | Index jig |
| Option B: | Plate type jig |
| Option C: | Open type jig |
| Option D: | Pot type jig |
| | |
| Q8. | Which among the following locators is best suitable for location of a round shaped job |
| Option A: | Pin type locator |
| Option B: | Wedge type locator |
| Option C: | Vee locator |
| Option D: | Diamond pin locator |
| | |
| Q9. | Which of the following is the purpose of providing bushing in drill jig |
| Option A: | For easy drilling |
| Option B: | For determining the size of hole to be drilled |
| Option C: | For locating accurately and guiding the drill for precise drilling |
| Option D: | For getting good finished surface in the drilled holes |
| | |
| Q10. | Which one of the following devices is used for convenience of fabrication of a job by |
| Option A: | Gauge |
| Option B: | Template |
| Option C: | Jig |
| Option D: | Fixture |
| | |
| Q11. | With the use of Jigs and fixture |
| Option A: | Labor cost decreases |
| Option B: | Labor cost remain same |
| Option C: | Labor cost increases |
| Option D: | Labour cost become zero |
| | |
| Q12. | With the use of Jigs and fixture total cost of production |
| Option A: | Increases |
| Option B: | Decreases |
| Option C: | Remains the same |
| Option D: | Jigs are not used in any production process |
| | |
| Q13. | Jigs are not used in |
| Option A: | Drilling |
| Option B: | Reaming |
| Option C: | Tapping |

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| Option D: | Milling |
| Q14. | How many types of broaching fixtures are used? |
| Option A: | 3 types |
| Option B: | 4 types |
| Option C: | 2 types |
| Option D: | 6 types |
| Q15. | During process of milling of gear teeth which fixture was used |
| Option A: | Chuck |
| Option B: | Bench vice |
| Option C: | Collet |
| Option D: | Mandrel |
| Q16. | Fixtures are used in |
| Option A: | Milling |
| Option B: | Drilling |
| Option C: | Tapping |
| Option D: | Reaming |
| Q17. | Which of the following is used to only hold the work-piece and not guide the tool |
| Option A: | Gauge |
| Option B: | Housing |
| Option C: | Jig |
| Option D: | Fixture |
| Q18. | Which fixtures are used for machining parts which must have evenly spaced machined |
| Option A: | Profile fixtures |
| Option B: | Duplex fixtures |
| Option C: | Indexing fixtures |
| Option D: | Welding fixture |
| Q19. | For grinding operation method is used for holding small work-pieces on |
| Option A: | Lever clamping |
| Option B: | Nesting |
| Option C: | Toggle clamping |
| Option D: | Edge clamping |
| Q20. | Lathe mandrels can be termed as a |
| Option A: | Jig |
| Option B: | Fixture |
| Option C: | Gauge |
| Option D: | Template |
| Q21. | which of the following is not used as Work holding devices used in turning process? |
| Option A: | Face plate |

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| Option B: | carrier |
| Option C: | Mandrel |
| Option D: | Bench vice |
| | |
| Q22. | which of the following parameters is not considered while designing of milling fixture |
| Option A: | diameter of milling cutter to be used. |
| Option B: | Dimensions of T slots |
| Option C: | The center-to-center distance of T slots |
| Option D: | The dimensions of the milling machine table |
| | |
| Q23. | Broaching fixtures are used for |
| Option A: | Holding the workpiece during the broaching operation |
| Option B: | holding the tool for broaching |
| Option C: | hold the workpiece after broaching is completed |
| Option D: | to hold the broaching tool after operation is completed |
| | |
| Q24. | Which of the following is not a type of indexing device |
| Option A: | index plate and plunger |
| Option B: | lever type indexing device |
| Option C: | Ball type indexing device |
| Option D: | screw type indexing device |
| | |
| Q25. | Name the type of fixture or jig needed to produce the drilled holes on the component as shown in the figure. |
| | |
| Option A: | Indexing jig |
| Option B: | Box type jig |
| Option C: | Plate type jig |
| Option D: | Bench vice. |
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| Option D: | |
| | |
| Q17. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q18. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q19. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q20. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q21. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q22. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q23. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q24. | |

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| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |
| | |
| Q25. | |
| Option A: | |
| Option B: | |
| Option C: | |
| Option D: | |