

C. Flatness	iii. 
D. Concentricity	iv. 

	A	B	C	D
a)	i	ii	iii	iv
b)	ii	i	iv	iii
c)	ii	iii	iv	i
d)	ii	iii	i	iv

5. Machining allowance for medium size item CO3 [K₂]
- a) 3 mm b) 5-10mm
- c) 15-30 mm d) 10-15 mm
6. The total change of volume is termed as CO2 [K₁]
- a) Contraction b) Segregation
- c) Solidification d) Castability
7. Assertion (A): The surface of the body that contact the datum's are called datum feature of the body CO1 [K₃]
- Reason (R): It is convenient to use a parallelity tolerance for control of small angles.
- a) Both A and R are true and R is the Correct explanation of A b) Both A and R are true but R is Not the correct explanation of A
- c) A is true but R is false d) A is false but R is true
8. During casting, gases and impurities escape via CO4 [K₁]
- a) Cope b) Drag
- c) Raiser d) Runner
9. Multiple selection item with multiple choice code CO5 [K₃]
- Consider the following statements.
- To protect the biosphere companies will minimize the release of pollutants that endanger the earth.
 - Acid rain is the local pollution problem.
 - The Society of Toxicology and Chemistry has developed five steps process for completing a LCA
 - Design for disassembly is one of the techniques to reduce the environmental impact.
- Which of the following statement are correct?
- a) 1 and 2 b) 1 and 4
- c) 2 and 3 d) 2 and 4
10. The first five digits in OPTIZ parts classification and coding system represents CO4 [K₁]
- a) Meta code b) Secondary code

c) Form code

d) Supplementary code

PART B (10 x 2 = 20 Marks)

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|---|-----|-------------------|
| 11. Compare design for manufacturing and assembly. | CO1 | [K ₂] |
| 12. Define Manufacturability | CO1 | [K ₁] |
| 13. State four design rules for aluminium casting. | CO2 | [K ₂] |
| 14. Demonstrate about the various remedies for shrinkage effect in casting. | CO2 | [K ₃] |
| 15. Classify the types of keyway. | CO3 | [K ₂] |
| 16. Demonstrate about the doweling procedure. | CO3 | [K ₂] |
| 17. What is meant by parting line? | CO4 | [K ₂] |
| 18. Differentiate core and cavity. | CO4 | [K ₂] |
| 19. Define Recyclability. | CO5 | [K ₁] |
| 20. List out the benefits of ISO-14000. | CO5 | [K ₂] |

PART C (6 x 5 = 30 Marks)

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| 21. Design the various steps for material selection in the form design | CO1 | [K ₃] |
| 22. Develop various evaluation methods used for manufacturability in DFMA. | CO2 | [K ₂] |
| 23. Describe in detail about the design for economy. | CO3 | [K ₃] |
| 24. Explain in detail with suitable sketch of optiz method. | CO4 | [K ₂] |
| 25. Describe and develop the obviate sand cores in casting process. | CO4 | [K ₃] |
| 26. Explain the weighted sum assessment method. | CO5 | [K ₂] |

Answer any FOUR Questions

PART D (4 x 10 = 40 Marks)

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| 27. Describe the design principle for manufacturability in DFMA. | CO1 | [K ₂] |
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28. Illuminate in detail about the impact of various defects in welding in form design. CO2 [K3]
29. Describe in detail about the reduction of machined area by simplification by separation with neat sketch. CO3 [K₃]
30. Enlighten with a neat sketch how redesign can be made based on the parting line consideration. CO4 [K₃]
31. Discuss the techniques to reduce the environmental impact in detail with examples. CO5 [K₂]
