

University of Mumbai
Examinations Summer 2022
 1T01425 // T.E (Mechanical Engineering) (SEM-V)(CBCGS)(R2016)
 32607 // Elective - I Design of Jigs and Fixtures

Time: 2 hour 30 minutes

SET- 1

Max. Marks: 80

Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks	20 marks
1.	Chips fall or can be swept off easily when	
Option A:	Locating surface raised above surrounding surface of jig or fixture	
Option B:	Locating surface not raised above surrounding surface of jig or fixture	
Option C:	Hexagonal Shape locating surface used	
Option D:	Angular Shape locating surface used	
2.	Because of use of jigs & fixtures	
Option A:	Safety of works improve	
Option B:	Safety of works worsen	
Option C:	There is no effect on safety	
Option D:	Chances of accidents increases	
3.	According to one of principle of pin location ,how locating points should be placed, to achieve the greatest accuracy in location	
Option A:	As far away from one another as possible	
Option B:	Near to one another	
Option C:	In circular pattern	
Option D:	In hexagonal pattern	
4.	According to 3-2-1 Principle _____ locating point is sufficient to prevent movement in third or last, after finishing two planes.	
Option A:	One	
Option B:	Two	
Option C:	Three	
Option D:	Six	
5.	The following holds the workpiece securely in a jig or fixture against the cutting forces	
Option A:	Locating device	
Option B:	Clamping device	
Option C:	Guiding device	
Option D:	indexing device	
6.	The following is a quick-acting clamp	
Option A:	Hinged clamp	
Option B:	Cam operated clamp	
Option C:	Bridge clamp	
Option D:	Edge clamp	

7.	Metal selected for manufacturing grinding fixture is	
Option A:	Ferrous material.	
Option B:	Aluminum alloy	
Option C:	Brass	
Option D:	All of above	
8.	When supported on three points, out of the 12 degree of freedom arrested in a body is	
Option A:	3	
Option B:	4	
Option C:	5	
Option D:	6	
9.	Which one is not correct in case of jigs & fixture	
Option A:	Once jig or fixture is properly set up any number of duplicate parts may be readily produced without additional set up	
Option B:	Their use partially automate the machine tool	
Option C:	Tool setting element is one of the component or element in fixture	
Option D:	Jig or fixture lowers versatility of machine tool	
10.	Which of the following is not a locating device?	
Option A:	V block	
Option B:	support pins	
Option C:	jack pins	
Option D:	pot pins	
Q.2	Solve any Four out of Six (5 marks each)	20 marks
A	Indexing Devices	
B	'C' Clamps	
C	Fool proofing.	
D	Use of V block as a locator	
E	What are the functions of jigs and fixture?	
F	Application of Indexing	
Q.3	Solve any Two Questions out of Three (10 marks each)	20 marks
A	Explain essential features of an Indexing Jigs/fixtures.	
B	Describe Internal & external broaching fixtures.	
C	Sketch and explain latch Jig and Channel Jig.	
Q.4	Solve any Two out of Three (5 marks each)	20 marks
A	Design and draw two views of a Jig for drilling two holes of 10 mm diameter on the given work piece.	
