Reg. No. :

B.E. / B.Tech. DEGREE EXAMINATION, MAY 2022

One credit

Mechanical Engineering

19UME861 – JIGS AND FIXTURES

(Regulation 2019)

Duration: 1.30 hours

Maximum: 50 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1.	Which one of the following is used to guide the tool and hold the job in mass production?				
	(a) Gauge	(b) Housing	(c) Jig	(d) Fixture	
2.	The following hold cutting forces	s the workpiece secure	ely in a jig or fixture again	st the	CO1-U
	(a) Locating device	(b) Clamping dev	vice (c) Guiding devi	ice (d) Indexing	device
3.	The following material is commonly used for making locating and clamping CO1-U devices				
	(a) High carbon ste	el (b) Low carb	on steel (c) High spee	ed steel (d) Die	steel
4.	The following is(ar	e) the function(s) of a	jig.		CO1-U
	(a) Holding	(b) Locating	(c) Guiding	(d) All of the ab	oove
5.	The following type of jig suits best for drilling of holes in hollow cylindrical components, with relatively smaller outside and inside diameters, such as CO1-U bushes.				
	(a) Solid type jig	(b) Pot type jig	(c) Box type jig	(d) Open ty	pe jig
6.	This type of jig is employed on multi-spindle machines. CO1-U				CO1-U
	(a) Index jig	(b) Universal jig	(c) Open type jig	(d) Multi-stati	on jig
7.	The following jig c	an be used for several	different work pieces and	operations.	CO1-U
	(a) Template jig	(b) Multi-station jig	g (c) Index jig	(d) Univers	al jig

8.	A fixture does not	CO1-U			
	(a) Holds the work piece (b) Locate the work piece				
	(c) Guide the tool (d) All of the above				
9.	Which fixtures are used for machining parts which must have machined cO1-details evenly spaced?				
	(a) Profile fixtures (b) Duplex fixtures				
	(c) Indexing fixtures (d) None of the above				
10.	How jigs are in terms of weight compared to fixtures?	CO1-U			
	(a) Jigs are lighter than fixtures (b) Jigs are h	eavier than fixtures			
	(c) Jigs are equal in weight to fixtures for same operation (d) cannot sa	У			
	PART - B (2x 20 = 40 Marks)				
11.	(a) (i) Describe the six point location (3-2-1) principle with neat sketch.	CO1-U (10)			
	(ii) Discuss about the types of locators with neat sketches.	CO1-U (10)			
	Or				
	(b) (i) Explain box jig with neat sketch.	CO2-U (10)			
	(ii) Explain modular jig with neat sketch.	CO2-U (10)			