Department of Mechanical Engineering
Innovative Teaching Methods

Activity Title	Quiz
Faculty Name/Department	Mr Sakthivel D / Mech
Mapped Course Name & Code	ME 8073 UNCONVENTIONAL MACHINING PROCESS
Date	19.09.2022
Benefitted Students (Year / Sem / Dept)	IV / VII / Mech
Topic	Laser Beam Machining
Description	I have tried to make the questions relevant toward the evaluation of the engineer who has a background in Laser beam machining, Saying that, knowing the answers to this quiz doesn't imply that one is capable of understanding the principles involved in unconventional machining process concerning laser beam machining. *(Rule: No passing Questions)*
Course Outcomes (CO)	CO2: Compare various thermal energy and electrical energy based unconventional machining processes.
Performance Indicator (PI)	1.3.1
Mail ID (for review)	mech.sakthivel@msajce-edu.in
Activity Photos	

	

Topics/ Questions:

1. Which of the following are the properties of a laser.

a) Highly collimated
b) Monochromatic
c) Coherent light beam
d) All of the mentioned

2. Laser beam machining uses which type of power sources for machining

a) Very low power
b) Low power
c) Medium power
d) High power

3. What is the wavelength value of Ruby laser used in Laser beam machining

a) 633 nm
b) 694 nm
c) 856 nm
d) 1064 nm

4. What is the wavelength value of CO2 laser used in Laser beam machining

a) 0.16 μm
b) 1.6 μm
c) 10.6 μm
d) 106 μm

5.What is the full form of LBM in advanced machining processes

a) Laser Beam Manufacturing
b) Laser Beam Machining
c) Light Blast Manufacturing
d) Light Beam Machining

6. What is the abbreviation of Laser
a) Light allowed simple emission of radiation
b) Light amplification by stimulated emission of radiation
c) Light amplified simultaneous emission of rays
d) Light amplified stimulated emanation of rays

7. Which of the following are different types of lasers used in Laser beam machining?

a) Solid-state ion
b) Neutral gas
c) Semiconductor
d) All of the mentioned

8. Which types of lasers are used in Laser beam machining?

a) Continuous wave
b) Pulsed mode
c) Continuous wave & Pulsed mode
d) None of the mentioned

9.What are the values of wavelengths of GaAs laser used in LBM?
a) 100 – 200 nm
b) 200 – 400 nm
c) 600 – 700 nm
d) 800 – 900 nm

10. Which of the following are the components of Ion beam machining
a) Vacuum chamber
b) Voltage source
c) Tungsten filament cathode
d) All of the mentioned

11. How does the ions strike the work piece in machining using IBM.
a) Oblique striking
b) Normal incident striking
c) Oblique & Normal incident striking
d) None of the mentioned

12. What are the values of current densities required in IBM.

a) 0.25 mA/cm^2
b) 0.35 mA/cm^2
c) 0.55 mA/cm^2
d) 0.85 mA/cm^2

13. What is the value of beam diameter that is obtained in IBM.
a) 1 cm
b) 3 cm
c) 5 cm
d) 7 cm

14. What is the value of voltage required for machining in Ion beam machining.

a) 1 kV
b) 2 kV
c) 3 kV
d) 4 kV

15. What is the value of beam diameter that is obtained in IBM

a) 1 cm
b) 3 cm
c) 5 cm
d) 7 cm

16.What is the wavelength value of Nd-YAG and Nd-glass lasers used in LBM

a) 633 nm
b) 694 nm
c) 856 nm
d) 1064 nm

17.How many types of flows are possible in gas lasers.
a) 2
b) 3
c) 4
d) 5

18. For which of the following materials CO2 laser is not used.
a) Plastics
b) Metals
c) Organic materials
d) Ceramics

Marks:

Group Name (if ITM is a group activity)	Reg No.	Topic	Marks
TEAM A	311819114001	LASER BEAM MACHINING	20
	311819114002		
	311819114003		
	311819114004		
	311819114005		
TEAM B	311819114006		15
	311819114007		
	311819114008		
	311819114009		
	311819114010		
TEAM C	311819114011		18
	311819114013		
	311819114014		
	311819114015		
	311819114016		
TEAM D	311819114011		15
	311819114013		
	311819114014		
	311819114015		
	311819114016		
TEAM E	311819114017		25
	311819114018		
	311819114019		
	311819114020		
	311819114021		
TEAM F	311819114301		20
	311819114303		
	311819114304		
	311819114305		
	311819114306		
TEAM G	311819114307		25
	311819114308		
	311819114309		
	311819114310		
	311819114311		

Outcomes:

Unconventional Machining process allows you to get knowledge on different types of beams used for laser machining. This means students can gather deeper knowledge on different types of process and its wavelength parameters and the costs involved in it. This improves the student's interest on the Internal Assessment Test.