University of Mumbai

Examination 2020 under cluster 4 (PCE)

Program: BE Automobile Engineering
Curriculum Scheme: Rev2016
Examination: Third Year Semester V
Course Code: AEDLO5012 and Course Name: Machining Sciences and Tool Design
Time: 1 hour Max. Marks: 50

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

Q1.	Which of the following is not an assumption made for Lee and Shaffer's Theory?
Option A:	Workpiece material behaves like an ideal plastic material
Option B:	Deformation of the metal does not occur on a single shear plane.
Option C:	The chip separates from the workpiece at the shear plane
Option D:	Deformation of the metal occurs on a single shear plane.
Q2.	Weared tool leads to excessive rubbing of the tool flank and hence
Option A:	cutting forces decrease
Option B:	cutting forces remain the same
Option C:	it does not affect the cutting process
Option D:	cutting forces increase
Q3.	Increase in relief angle reduces cutting forces but
Option A:	reduces the strength of the tool
Option B:	increases the strength of the tool
Option C:	does not affect the strength of the tool
Option D:	does not affect the machining process
Q4.	During machining, plastic deformation of metal occurs on the shear plane, due to which
Option A:	heat is not generated
Option B:	heat is generated
Option C:	fluid is generated
Option D:	cooler air is generated
Q5.	Strain gauge dynamometer is also called as
Option A:	Turning Dynamometer
Option B:	Electrical Dynamometer
Option C:	Drilling Dynamometer
Option D:	Mechanical Dynamometer
Q6.	The dynamometer which is based on the principle that, the electric resistance of a wire changes when it is stretched
Option A:	Electrical Dynamometer
Option B:	Strain Gauge Type Dynamometer
Option C:	Drilling Dynamometer
Option D:	Mechanical Dynamometer
Q7.	Which of the following should lubricate the cutting tool and thus reduce the coefficient of friction between tool and the workpiece?
Option A:	Tool

Option B:	Workpiece
Option C:	Chip
Option D:	Cutting Fluids
Q8.	The most freely available, less expensive and best cutting fluid from high heat conductivity point of view is
Option A:	Lard oil
Option B:	Argon
Option C:	mineral oil
Option D:	water
Q9.	The coolants which can give high metal removal rates and more life than other machining fluids; which are generally non petroleum products diluted with water are
Option A:	Synthetic coolants
Option B:	Mineral oil
Option C:	Soluble oil
Option D:	Fatty oil
Q10.	The tool materials formed by Tungsten, Titanium or Tantalum with carbon and the compound combined with cobalt and sintered in furnace at 1400 degree Celsius are
Option A:	Ceramics
Option B:	Cubic Boron Nitride
Option C:	Diamond
Option D:	Cemented Carbides
Q11.	The tool material which has low coefficient of friction and so is used for high grade super finishing is
Option A:	Diamond
Option B:	Ceramics
Option C:	Cubic Boron Nitride
Option D:	High Speed Steel
Q12.	Cutting of ductile materials such as Aluminium, copper and low carbon steel leads to the formation of
Option A:	a continuous chip
Option B:	a discontinuous chip
Option C:	a rough chip
Option D:	particles
Q13.	Cutting fluid is one of the factors affecting the tool life, cutting fluids help reduce forces and carry away the heat generated hence,
Option A:	decreasing tool life
Option B:	does not affect the tool
Option C:	does not affect the machining process
Option D:	increasing tool life
Q14.	Materials having higher thermal shock resistance, high thermal conductivity and low coefficient of thermal expansion lead to
Option A:	higher tool life

Option B:	lower tool life
Option C:	decrease in production rate
Option D:	increase in production time
Q15.	The abrasive action of the hard micro-constituents of the workpiece and any debris from the built-up edge will lead to
Option A:	flank wear
Option B:	crater wear
Option C:	nose wear
Option D:	improved tool life
Q16.	In single point cutting tool, the part of the main body which is used to hold the tool is called as
Option A:	nose
Option B:	heel
Option C:	face
Option D:	shank
Q17.	In single point cutting tool, the surface below and adjacent to the cutting edge is called as
Option A:	flank
Option B:	face
Option C:	heel
Option D:	shank
Q18.	In single point cutting tool, the angle between the side cutting edge and side of the tool shank is called as
Option A:	Side cutting edge angle
Option B:	End cutting edge angle
Option C:	Back Rack angle
Option D:	End relief angle
Q19.	In single point cutting tool, the angle between the end cutting edge and a line perpendicular to the shank of the tool is called
Option A:	Back Rack angle
Option B:	End Cutting Edge Angle
Option C:	Side cutting edge angle
Option D:	End relief angle
Q20.	In face milling cutters, the part of the tooth which is on the periphery of the cutter is known as
Option A:	face cutting edge
Option B:	raw cutting edge
Option C:	round cutting edge
Option D:	peripheral cutting edge
Q21.	The parameter that is determined by the force required to pull or push the broach through the workpiece is
Option A:	root diameter
Option B:	hook angle

Option C:	chip space
Option D:	Pitch
Q22.	The system in which the three planes of reference may not be mutually perpendicular is the
Option A:	Normal Rake System
Option B:	Orthogonal Rake System
Option C:	American Standards Association system
Option D:	Tool in hand system
Q23.	As the flat form tools have good surface finish, this type of tool must be operated at
Option A:	very high cutting speed.
Option B:	very low cutting speed.
Option C:	high temperatures
Option D:	very high pressures
Q24.	For multipoint point cutting tools the cutting edge appears at the intersection of
Option A:	no surface
Option B:	rake surface and flank surface
Option C:	new surface
Option D:	polished surface
Q25.	Fly milling cutter is an example of
Option A:	multipoint cutting tools
Option B:	single point sharping tools
Option C:	single point cutting tools
Option D:	single point blunt tools