

## NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

## (An Autonomous Institute)

Affiliated to Dr. A.P.J. Abdul Kalam Technical University, Uttar Pradesh, Lucknow

M.Tech

FIRST YEAR (SEMESTER-II) THEORY EXAMINATION (2020-2021)

(Objective Type)

Subject Code: AMTME0202

Subject: Composite Materials

**General Instructions:** 

All questions are compulsory.

Question No-1 to 5 are objective type question carrying 2 marks each.

Question No- 6 to 20 are also objective type/Glossary based question carrying 2 marks each.

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Options Randomi zation	Туре	Difficulty	Correct	Option1	Option2	Option3	Option4
1	Which one of the following is the natural composite		Single Choice Questions	Single Choice Questions	2		Single Choice	Brilliant	wood	wood	concrete	cement	bimetallic
2	Which of the following is used as reinforcement in advanced polymer matrix composite?		Single Choice Questions	Single Choice Questions	2		Single Choice	Brilliant	Carbon-fiber reinforced	Glass-fiber reinforced	Carbon-fiber reinforced	Wood-fiber reinforced	Unidirectional-fiber reinforced
3	"In filament winding process, the winding can be done at the same or different angles until the desired thickness is reached."		Single Choice Questions	Single Choice Questions	2		Single Choice	Brilliant	True	True	False		
4	Which of the following is a non-contact type non- destructive testing method?		Single Choice Questions	Single Choice Questions	2		Single Choice	Brilliant	Thermography	Eddy Current testing	Thermography	Liquid Penetrant	None of these
5	Which of the following laminates behave as a specially orthotropic materials?		Single Choice Questions	Single Choice Questions	2		Single Choice	Brilliant	All of these.	Angle-ply laminates.	Cross-ply laminates.	Anti-symmetric laminates.	All of these.
6	A composite is a structural material that consists of two or more constituents that are combined at a … ……. and are not soluble in each other.		Glossary I	Glossary I	2		Single Choice	Brilliant	macroscopic level	polymer	one fifth	macroscopic level	
7	Composites offer the stiffness of steel at …… …. the weight and equal the stiffness of aluminum at one half the weight.		Glossary I	Glossary I	2		Single Choice	Brilliant	one fifth	one fifth	polymer	macroscopic level	
8	The term …… …… means "many units" and refers to the way in which individual molecular units are joined together into a chain-like structure.		Glossary I	Glossary I	2		Single Choice	Brilliant	polymer	macroscopic level	one fifth	polymer	
9	The principal applications of composites are in the transportation industry, consumer products, and industrial and …… … equipment.		Glossary II	Glossary II	2		Single Choice	Brilliant	Scientific	collagen	fibrous chains	Scientific	
10	Wood is made up of …… of cellulose molecules in a matrix of lignin.		Glossary II	Glossary II	2		Single Choice	Brilliant	fibrous chains	collagen	fibrous chains	Scientific	
11	Bone and teeth are both essentially composed of hard inorganic crystals in a matrix of a tough organic constituent called… ….		Glossary II	Glossary II	2		Single Choice	Brilliant	collagen	Scientific	fibrous chains	collagen	
12	……… …….has a greater impact on the longitudinal strength of reinforced composites.		Glossary III	Glossary III	2		Single Choice	Brilliant	Fiber strength	Wear resistance	Fiber strength	Constituent properties	

Max Marks : 40

Time : 70 Minutes

Q.No	Question Content	Question Image	Category	Sub Category	Marks	Options Randomi zation	Туре	Difficulty	Correct	Option1	Option2	Option3	Option4
13	……… ……. may alter the mechanical properties of reinforced composites.		Glossary III	Glossary III	2		Single Choice	Brilliant	Constituent properties	Wear resistance	Fiber strength	Constituent properties	
14	…… ……property can be enhanced by reinforcing an aluminum alloy.		Glossary III	Glossary III	2		Single Choice	Brilliant	Wear resistance	Wear resistance	Fiber strength	Constituent properties	
15	………. is the study of composite material behavior wherein the interaction of the constituent materials is examined on a …… scale to determine their effect on the properties of the composite material.		Glossary IV	Glossary IV	2		Single Choice	Brilliant	Micromechanics,micro scopic	Plane stress, stress	Micromechanics,micro scopic	Macromechanics,macr oscopic	
16	…………… is the study of composite material behavior wherein the material is presumed homogeneous, and the effects of the constituent materials are detected only as averaged apparent …………. properties of the composite material.		Glossary IV	Glossary IV	2		Single Choice	Brilliant	Macromechanics,macr oscopic	Plane stress, stress	Micromechanics,micro scopic	Macromechanics,macr oscopic	
17	………… corresponds to a condition in which all three out-of-plane components of ………… are identically zero throughout the region.		Glossary IV	Glossary IV	2		Single Choice	Brilliant	Plane stress, stress	Plane stress, stress	Micromechanics,micro scopic	Macromechanics,macr oscopic	
18	In the ……… method, the function of a spray gun is to spray pressurized resin, catalyst, and reinforcement in the form of chopped fibers.		Glossary V	Glossary V	2		Single Choice	Brilliant	spray lay-up	wet lay-up	spray lay-up	autoclave	
19	An …… is a closed vessel for controlling temperature and pressure is used for curing polymeric matrix composites.		Glossary V	Glossary V	2		Single Choice	Brilliant	autoclave	wet lay-up	spray lay-up	autoclave	
20	Vacuum bagging process basically an extension of the ……. process described above where pressure is applied to the laminate once laid-up in order to improve its consolidation.		Glossary V	Glossary V	2		Single Choice	Brilliant	wet lay-up	wet lay-up	spray lay-up	autoclave	