



# UTTAR PRADESH TECHNICAL UNIVERSITY

LUCKNOW, UTTAR PRADESH, INDIA  
ESTABLISHED BY GOVT. OF U.P.

## FINAL YEAR BACHELOR OF TECHNOLOGY

Name: \_\_\_\_\_  
Registration No.: \_\_\_\_\_  
Roll No.: \_\_\_\_\_



Page No. \_\_\_\_\_  
Date: \_\_\_\_\_

Faculty: \_\_\_\_\_  
Department: \_\_\_\_\_

### EXAMINER

Solved Question and Answer	Maximum Marks (out of 100)	Marks Obtained (out of 100)	Project Work and Marks	EXAMINER	
				Name	Signature
Q.1. Explain the following terms: (a) Stress, (b) Strain, (c) Modulus of Elasticity, (d) Poisson's Ratio, (e) Factor of Safety.	10	10	10		
Q.2. A bar of length 2m and diameter 20mm is subjected to a tensile load of 10kN. Calculate the elongation of the bar if the modulus of elasticity is 200kN/mm <sup>2</sup> .	10	10	10		
Q.3. A cantilever beam of length 3m is fixed at one end and free at the other. It is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the beam.	10	10	10		
Q.4. A simply supported beam of length 4m is subjected to a point load of 10kN at its center. Calculate the maximum deflection of the beam.	10	10	10		
Q.5. A rectangular plate of length 4m and width 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the plate.	10	10	10		
Q.6. A circular plate of radius 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the plate.	10	10	10		
Q.7. A cylindrical shell of length 4m and radius 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the shell.	10	10	10		
Q.8. A spherical shell of radius 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the shell.	10	10	10		
Q.9. A thin-walled cylindrical shell of length 4m and radius 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the shell.	10	10	10		
Q.10. A thin-walled spherical shell of radius 2m is subjected to a uniformly distributed load of 10kN/m. Calculate the maximum deflection of the shell.	10	10	10		
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>		

Signature of Examiners  
Date: \_\_\_\_\_

EXAMINER'S SIGNATURE	Name (Block & Roll No.)	Marks Obtained		Project Work	Total
		Project Work	Theory		

Name of the Candidate: \_\_\_\_\_  
Roll No.: \_\_\_\_\_