

**NCEES Principles and Practice of Engineering Examination**  
**PE Civil Structural**

DAY	Topic/ Number of Questions	Knowledge Area	V	DAY	Topic/ Number of Questions	Knowledge Area	V
1	I. Project Planning 4	A. Quantity take-off methods	62	I. Analysis of Structures 14 A. Loads and load applications 4	6. Moving loads (e.g., vehicular, cranes)		
2		B. Cost estimating	63		7. Snow, rain, ice		
3		C. Project schedules	64		8. Impact loads		
4		D. Activity identification and sequencing	65		Rest		
5	II. Means and Methods 3	A. Construction loads	66	I. Analysis of Structures 14 A. Loads and load applications 4	9. Earth pressure and surcharge loads		
6	Rest	Rest	67		10. Load paths (e.g., lateral and vertical)		
7	II. Means and Methods 3	B. Construction methods	68		11. Load combinations		
8		C. Temporary structures and facilities	69		12. Tributary areas		
9	III. Soil Mechanics 6	A. Lateral earth pressure	70	I. Analysis of Structures 14 B. Forces and load effects 10	1. Diagrams (e.g., shear and moment)		
10		B. Soil consolidation	71		Rest		
11		C. Effective and total stresses	72	I. Analysis of Structures 14 B. Forces and load effects 10	2. Axial (e.g., tension and compression)		
12	Rest	Rest	73		3. Shear		
13	III. Soil Mechanics 6	D. Bearing capacity	74		4. Flexure		
14		E. Foundation settlement	75		5. Deflection		
15		F. Slope stability	76		6. Special topics (e.g., torsion, buckling, fatigue, progressive collapse, thermal deformation, bearing)		
16		IV. Structural Mechanics 6	A. Dead and live loads		77	Rest	
17	B. Trusses		78	II. Design and Details of Structures 20 A. Materials and material properties 5	1. Concrete (e.g., plain, reinforced, cast-in-place, precast, pre-tensioned, post-tensioned)		
18	Rest	Rest	79		2. Steel (e.g., structural, reinforcing, cold-formed)		
19	IV. Structural Mechanics 6	C. Bending (e.g., moments and stresses)	80		3. Timber		
20		D. Shear (e.g., forces and stresses)	81		4. Masonry (e.g., brick veneer, CMU)		
21		E. Axial (e.g., forces and stresses)	82	Rest			
22		F. Combined stresses	83	II. Design and Details of Structures 20 B. Component design and detailing 15	1. Horizontal members (e.g., beams, slabs, diaphragms)		
23		G. Deflection	84		2. Vertical members (e.g., columns, bearing walls, shear walls)		
24		Rest	Rest		85	3. Systems (e.g., trusses, braces, frames, composite construction)	
25	IV. Structural Mechanics 6	H. Beams	86		4. Connections (e.g., bearing, bolted, welded, embedded, anchored)		
26		I. Columns	87		5. Foundations (e.g., retaining walls, footings, combined footings, slabs, mats, piers, piles, caissons, drilled shafts)		
27		J. Slabs	88		Rest		
28		K. Footings	89	III. Codes and Construction 6 A. Codes, standards, and guidance documents 4	1. International Building Code (IBC)		
29		L. Retaining walls	90		2. American Concrete Institute (ACI 318, 530)		
30	Rest	Rest	91		3. Precast/Prestressed Concrete Institute (PCI Design Handbook)		
31	V. Hydraulics and Hydrology 7	A. Open-channel flow	92		4. Steel Construction Manual (AISC)		
32		B. Stormwater collection and drainage (e.g., culvert, stormwater inlets, gutter flow, street flow, storm sewer pipes)	93	Rest			
33		C. Storm characteristics (e.g., storm frequency, rainfall measurement and distribution)	94	III. Codes and Construction 6 A. Codes, standards, and guidance documents 4	5. National Design Specification for Wood Construction (NDS)		
34		D. Runoff analysis (e.g., Rational and SCS/NRCS methods, hydrographic application, runoff time of concentration)	95		6. LRFD Bridge Design Specifications (AASHTO)		
35		E. Detention/retention ponds	96		7. Minimum Design Loads for Buildings and Other Structures (ASCE 7)		
36		Rest	Rest		97	8. American Welding Society (AWS D1.1, D1.2, and D1.4)	
37	V. Hydraulics and Hydrology 7	F. Pressure conduit (e.g., single pipe, force mains, Hazen-Williams, Darcy-Weisbach, major and minor losses)	98		9. OSHA 1910 General Industry and OSHA 1926 Construction Safety Standards		
38		G. Energy and/or continuity equation (e.g., Bernoulli)	99		Rest		
39	VI. Geometrics 3	A. Basic circular curve elements (e.g., middle ordinate, length, chord, radius)	100	III. Codes and Construction 6 B. Temporary structures and other topics 2	1. Special inspections		
40		B. Basic vertical curve elements	101		2. Submittals		
41		C. Traffic volume (e.g., vehicle mix, flow, and speed)	102		3. Formwork		
42	Rest	Rest	103		4. Falsework and scaffolding		
43	VII. Materials 6	A. Soil classification and boring log interpretation	104	III. Codes and Construction 6 B. Temporary structures and other topics 2	5. Shoring and reshoring		
44		B. Soil properties (e.g., strength, permeability, compressibility, phase relationships)	105		Rest		
45		C. Concrete (e.g., nonreinforced, reinforced)	106		III. Codes and Construction 6 B. Temporary structures and other topics 2	6. Concrete maturity and early strength evaluation	
46		D. Structural steel	107			7. Bracing	
47		E. Material test methods and specification conformance	108			8. Anchorage	
48		Rest	Rest			109	9. OSHA regulations
49	VII. Materials 6	F. Compaction	110	10. Safety management			
50	VIII. Site Development 5	A. Excavation and embankment (e.g., cut and fill)	111	Rest		Rest	
51		B. Construction site layout and control	112	Test,Review	Test,Review		
52		C. Temporary and permanent soil erosion and sediment control (e.g., construction erosion control and permits, sediment transport, channel/outlet protection)	113		Test,Review		
53		D. Impact of construction on adjacent facilities	114		Test,Review		
54		Rest	Rest		115	Test,Review	
55	VIII. Site Development 5	E. Safety (e.g., construction, roadside, work zone)	116		Test,Review		
56	I. Analysis of Structures 14 A. Loads and load applications 4	1. Dead loads	117	Rest	Rest		
57		2. Live loads	118	Exam	Exam		
58		3. Construction loads					
59	Rest	Rest					
60	I. Analysis of Structures 14 A. Loads and load applications 4	4. Wind loads					
61		5. Seismic loads					