

NSAT – 2025 Syllabus

(National Safety Aptitude Test - 2025)

Syllabus for NSAT General

SL.	Subject Area	Marks	Elements
I) General Aptitude (20 questions)			
	General Aptitude	20	English Language
			Logical reasoning
			Leadership Skill
			IT proficiency
II) Occupational safety & Health (80 questions)			
1	Industrial Safety Management	13	Safety Management
			Role of Management in Industrial Safety
			Organising for Safety
			Directing Safety
			Communication
			Safety - Education and Training
			Employee Participation in Safety
			Behavior Based Safety (BBS)
			Management Information System (MIS)
			Accident Prevention
			Disaster Management
2	Safety in Engineering Industry	13	Machine Operation and Guarding
			Safety in the use of Machines
			Safety in the use of Hand Tools and Power Tools
			Material Handling and Storage
			Plant Layout Design and Housekeeping
			Electrical Hazards at Workplace
			Safety in Engineering Industries
			Hazards at Workplace
			Safety in Textile Industry
			Safety in Agro-Industry / Sugar Industry
			Safety in Docks Operations
			Destructive Testing, Non Destructive Testing and Heat Treatment
			Safety in IT and Electronic Industry and Service Sector
3	Safety in Construction Industry	13	Hazards in Construction Sector and their preventive measures
			Safety in the use of construction machinery
			Working below ground level
			Working at height

			General Safety Measures
			Special Works
			Special precautions for works of engineering construction
			Safety in Demolition Operations
			Transportation System
4	Chemical and Process Safety Management	13	Process Safety Management
			Major Industrial Disasters
			Enhancing safety in chemical industry
			Unit operations and process hazards
			Safe Handling of chemicals
			Safety in plant operation and maintenance
			Fire and explosion
			Pressure vessels
			Chemical Process Plant
			Chemical Reaction Hazards
5	Quality Control in OSH	9	Safety Appraisal & Control Techniques
			Permit to work Systems
			Accident / incident / near-miss / dangerous occurrence reporting, investigation
			Measurement and evaluation of safety performance
			Safety performance indicators
			Classification of industrial accidents
			Hazard identification, Risk assessment and control
			Major Accident Hazards (MAH) Control System
			Emergency Preparedness and response plans
			Occupational Health and Safety Audits
			Accident Analysis
6	Industrial Hygiene and Occupational Health	7	Industrial Hygiene
			Personal Protective Equipment
			Ventilation and Heat Stress
			Industrial Lighting & Illumination
			Noise and Vibration
			Occupational Health
			Occupational Health Hazards & Occupational Diseases
			First Aid
			Introduction to Ergonomics:
			Ergonomic Design of Work Station
			Physiology at Work
7	OSH Legislations and Standards	12	Factories Act and Rules
			BOCW Act and Rules
			Dock Workers Act & Regulations
			Boilers Act

			Petroleum Act & Rules
			Explosives Act & Rules
			Insecticides Act & Rules
			Electricity Act and CEA Regulations
			CMV Rules
			Employee Compensation Act & Rules Contract Labour Act and Rules
			PLI Act & Rules
			ILO Conventions & Recommendations
			Indian Standards including NBC 2016
			ISO Standards
			OISD Standards
III) Environment (20 questions)			
	Environment	20	Legislations (EP Act & Rules, Air Act & Rules, Water Act & Rules, PLI Act, National Green Tribunal Act, Energy Conservation Act)
			Environmental Management Systems
			Environmental Monitoring
			Waste Management
			Global Warming
			Energy Conservation
			Sustainability and Reporting

Syllabus for NSAT Oil&Gas

SL.	Subject Area	Marks	Elements
I) General Aptitude (20 questions)			
	General Aptitude	20	English Language
			Logical reasoning
			Leadership Skill
			IT proficiency
II) Occupational safety & Health (80 questions)			
1	Industrial Safety Management	10	Management
			Role of Management in Industrial Safety
			Organising for Safety
			Directing Safety
			Communication
			Safety - Education and Training
			Employee Participation in Safety
			Behavior Based Safety (BBS)
			Management Information System (MIS)
			Accident Prevention
			Disaster Management
2	Safety in Engineering Industry	8	Machine Operation and Guarding
			Safety in the use of Machines
			Safety in the use of Hand Tools and Power Tools
			Material Handling and Storage
			Plant Layout Design and Housekeeping
			Electrical Hazards at Workplace
			Safety in Engineering Industries
			Hazards at Workplace
			Safety in Textile Industry
			Safety in Agro-Industry / Sugar Industry
			Safety in Docks Operations
			Destructive Testing, Non Destructive Testing and Heat Treatment
			Safety in IT and Electronic Industry and Service Sector
3	Chemical and Process Safety Management	8	Process Safety Management
			Major Industrial Disasters
			Enhancing safety in chemical industry
			Unit operations and process hazards
			Safe Handling of chemicals
			Safety in plant operation and maintenance
			Fire and explosion
			Pressure vessels
			Chemical Process Plant
			Chemical Reaction Hazards

4	Quality Control in OSH	10	Safety Appraisal & Control Techniques
			Permit to work Systems
			Accident / incident / near-miss / dangerous occurrence reporting, investigation
			Measurement and evaluation of safety performance
			Safety performance indicators
			Classification of industrial accidents
			Hazard identification, Risk assessment and control
			Major Accident Hazards (MAH) Control System
			Emergency Preparedness and response plans
			Occupational Health and Safety Audits
			Accident Analysis
6	Industrial Hygiene and Occupational Health	6	Industrial Hygiene
			Personal Protective Equipment
			Ventilation and Heat Stress
			Industrial Lighting & Illumination
			Noise and Vibration
			Occupational Health
			Occupational Health Hazards & Occupational Diseases
			First Aid
			Introduction to Ergonomics:
			Ergonomic Design of Work Station
			Physiology at Work
7	OSH Legislations and Standards	8	Factories Act and Rules
			BOCW Act and Rules
			Dock Workers Act & Regulations
			Boilers Act
			Insecticides Act & Rules
			Electricity Act and CEA Regulations
			CMV Rules
			Employee Compensation Act & Rules
			Contract Labour Act and Rules
			PLI Act & Rules
			ILO Conventions & Recommendations
			Indian Standards including NBC 2016
			ISO Standards
8	Safety in Oil & Gas	30	Petroleum Act and Petroleum Rules, Explosives Act and Rules, Gas Cylinders Rules, 2016.
			Hazards in Oil and Gas industry - their prevention & control measures
			Hazards of air and water in refinery operations
			Safety in sampling
			Safe startup and safe shutdown
			Safe handing over of equipment for maintenance

			H2S safety
			Safe storage and handling of crude and petroleum products
			Safety in operation and maintenance of LPG plants
			Safety in transportation of petroleum products
			Firefighting equipment and systems in O&G industry
			Emergency response and disaster management plan (ERDMP)
			OISD Standards, Guidelines and Recommended practices.
III) Environment (20 questions)			
	Environment	20	Legislations (EP Act & Rules, Air Act & Rules, Water Act & Rules, PLI Act, National Green Tribunal Act, Energy Conservation Act)
			Environmental Management Systems
			Environmental Monitoring
			Waste Management
			Global Warming
			Energy Conservation
			Sustainability and Reporting

Syllabus for NSAT Construction

SL.	Subject Area	Marks	Elements
I) General Aptitude (20 questions)			
	General Aptitude	20	English Language
			Logical reasoning
			Leadership Skill
			IT proficiency
II) Occupational safety & Health (80 questions)			
1	Industrial Safety Management	9	Management
			Role of Management in Industrial Safety
			Organising for Safety
			Directing Safety
			Communication
			Safety - Education and Training
			Employee Participation in Safety
			Behavior Based Safety (BBS)
			Management Information System (MIS)
			Accident Prevention
			Disaster Management
2	Safety in Engineering Industry	9	Machine Operation and Guarding
			Safety in the use of Machines
			Safety in the use of Hand Tools and Power Tools
			Material Handling and Storage
			Plant Layout Design and Housekeeping
			Electrical Hazards at Workplace
			Safety in Engineering Industries
			Hazards at Workplace
			Safety in Textile Industry
			Safety in Agro-Industry / Sugar Industry
			Safety in Docks Operations
			Destructive Testing, Non Destructive Testing and Heat Treatment
			Safety in IT and Electronic Industry and Service Sector
3	Chemical and Process Safety Management	9	Process Safety Management
			Major Industrial Disasters
			Enhancing safety in chemical industry
			Unit operations and process hazards
			Safe Handling of chemicals
			Safety in plant operation and maintenance
			Fire and explosion
			Pressure vessels

			Chemical Process Plant
			Chemical Reaction Hazards
4	Quality Control in OSH	9	Safety Appraisal & Control Techniques
			Permit to work Systems
			Accident / incident / near-miss / dangerous occurrence reporting, investigation
			Measurement and evaluation of safety performance
			Safety performance indicators
			Classification of industrial accidents
			Hazard identification, Risk assessment and control
			Major Accident Hazards (MAH) Control System
			Emergency Preparedness and response plans
			Occupational Health and Safety Audits
			Accident Analysis
5	Industrial Hygiene and Occupational Health	9	Industrial Hygiene
			Personal Protective Equipment
			Ventilation and Heat Stress
			Industrial Lighting & Illumination
			Noise and Vibration
			Occupational Health
			Occupational Health Hazards & Occupational Diseases
			First Aid
			Introduction to Ergonomics:
			Ergonomic Design of Work Station
			Physiology at Work
6	OSH Legislations and Standards	5	Factories Act and Rules
			BOCW Act and Rules
			Dock Workers Act & Regulations
			Boilers Act
			Petroleum Act & Rules
			Explosives Act & Rules
			Insecticides Act & Rules
			Electricity Act and CEA Regulations
			CMV Rules
			Employee Compensation Act & Rules
			Contract Labour Act and Rules
			PLI Act & Rules
			ILO Conventions & Recommendations
			Indian Standards including NBC 2016
			ISO Standards
7	Safety in Construction Industry	30	Hazards in Construction Sector and their preventive measures
			Safety in the use of construction machinery
			Working below ground level

			Working at height
			General Safety Measures
			Special Works
			Special precautions for works of engineering construction
			Safety in Demolition Operations
			Transportation System
III) Environment (20 questions)			
	Environment	20	Legislations (EP Act & Rules, Air Act & Rules, Water Act & Rules, PLI Act, National Green Tribunal Act, Energy Conservation Act)
			Environmental Management Systems
			Environmental Monitoring
			Waste Management
			Global Warming
			Energy Conservation
			Sustainability and Reporting