

## CORE OBJECTIVES (Logistics & Transportation Engineering)

<b>Engineering Practice</b>	<b>Code</b>	<b>ES Initials &amp; Date of Assessment</b>			
		<b>G</b>	<b>K</b>	<b>E</b>	<b>C</b>
<p><b>1. Policy, Regulations &amp; Basics</b></p> <ul style="list-style-type: none"> <li>a) Transport policies</li> <li>b) Regulatory framework</li> <li>c) Relevant laws, regulations and ordinances, customs and tariff rules</li> <li>d) Standards and codes of practice</li> <li>e) Design manuals and statutory requirements.</li> </ul>	<b>G</b>				
<p><b>2. Data Collection, Survey, Measurement and Statistical Analysis [At least 2 of the following]</b></p> <ul style="list-style-type: none"> <li>a) Quality Control Sampling Method</li> <li>b) Statistical Process Control (SPC)/ Statistical Quality Control (SQC)</li> <li>c) Measurement e.g. use of measuring instruments</li> <li>d) Design and implementation of database systems</li> <li>e) Data/ Information collection, treatment and analysis</li> <li>f) Statistical analysis and practical recommendations</li> <li>g) Measurement of systems performance</li> <li>h) Traffic &amp; transport surveys (planning, design and execution)</li> <li>i) Automatic traffic counting technologies and devices</li> <li>j) Transport statistics and data</li> <li>k) Research for improvement initiatives</li> <li>l) Computer simulation to support analysis</li> </ul>	<b>K</b>				

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		G	K	E	C
<p><b>3. Management, Operation and Other Activities Related to Logistics Systems or Transport Systems [Choose 3.1 or 3.2]</b></p> <p><b>3.1 Activities Related to Logistics Systems</b></p> <p><b>(i) Logistics Operations [At least 2 of the following]</b></p> <ul style="list-style-type: none"> <li>a) Logistics information systems</li> <li>b) Warehouse operations</li> <li>c) Resource planning and allocation</li> <li>d) Freight forwarding</li> <li>e) Supply chain integration</li> <li>f) Third party logistics</li> <li>g) Shipping and port logistics</li> <li>h) Air logistics</li> <li>i) Transportation management</li> <li>j) Logistics systems safety &amp; security, TAPA, C-TPAT, and AEO</li> <li>k) Digital trade &amp; transportation network (DTTN)</li> <li>l) Environmentally responsible logistics</li> <li>m) Cold-chain, special and/or dangerous goods handling</li> </ul> <p><b>(ii) Associated Technical Activities on Logistics Systems [At least 4 of the following]</b></p> <ul style="list-style-type: none"> <li>a) Demand forecasting</li> <li>b) Inventory control</li> <li>c) Transportation operations and management</li> <li>d) Vehicle routing, scheduling &amp; fleet dispatching</li> <li>e) Optimisation of transportation carrier operations</li> <li>f) Supply chain network design</li> <li>g) Procurement and sourcing</li> <li>h) Management of supply chain</li> <li>i) Supply contracts and collaboration</li> <li>j) Distribution management</li> <li>k) Material handling and transfer automation</li> <li>l) Warehouse operations and management</li> <li>m) Standard operations procedures design</li> <li>n) Wireless and mobile applications in logistics.</li> </ul>	<p style="text-align: center;"><b>C/E</b></p> <p style="text-align: center;"><b>C/E</b></p> <p style="text-align: center;"><b>C/E</b></p>				

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<p><b>(iii) Industrial Management and Commercial Activities</b>  <b>[At least 2 of the following]</b></p> <ul style="list-style-type: none"> <li>a) Organization and methods</li> <li>b) Training/ Human resources management</li> <li>c) Purchasing/ supply/ supplier relationship management</li> <li>d) Receiving and warehousing</li> <li>e) Dispatch and transportation</li> <li>f) Sales/ marketing and business development</li> <li>g) Plant engineering/ maintenance</li> <li>h) Logistics and support</li> <li>i) Security of plant, product and service</li> <li>j) Services product development and/or customers liaison</li> <li>k) Materials management e.g. sourcing, specifications, requirements.</li> </ul>	<b>C/E</b>				

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		G	K	E	C
<b>3.2 Activities Related to Transport Networks/ Systems</b>	C/E				
<b>(i) Network/ System Assessments [At least 3 of the following]</b>	C/E				
<ul style="list-style-type: none"> <li>a) Network demand and capacity analysis</li> <li>b) Accessibility and risk analysis</li> <li>c) Traffic impact assessments</li> <li>d) Pedestrian simulation and evacuation assessment</li> <li>e) Road safety audits</li> <li>f) Economic, social &amp; environmental impact assessments</li> <li>g) Multi-objective evaluations; including economic evaluation</li> <li>h) Feasibility studies in transport context.</li> </ul>					
<b>(ii) Planning, Design of Transport Networks/ Systems</b> <b>[At least 4 of the following]</b>	C/E				
<ul style="list-style-type: none"> <li>a) Territorial and regional transport planning</li> <li>b) Integration of land use and transport planning</li> <li>c) Transport master-planning</li> <li>d) Highway planning, design and construction</li> <li>e) Public transport network planning</li> <li>f) Public Transport Interchange (PTI) design and planning</li> <li>g) Pedestrian network and pedestrianisation schemes</li> <li>h) Cyclist network and bike plan</li> <li>i) Goods vehicle plan</li> <li>j) Streetscape design</li> <li>k) Layout design of road junction&amp;/or other traffic facilities</li> <li>l) Traffic management schemes/ calming measures</li> <li>m) Traffic signage, road markings and traffic aids</li> <li>n) Traffic signal plan, ducting and details</li> <li>o) Urban traffic control</li> <li>p) Traffic and transport information systems</li> <li>q) Parking management and control</li> <li>r) Temporary traffic management and traffic diversion.</li> </ul>					

