



**SIDDHARTHA INSTITUTION OF SCIENCE AND TECHNOLOGY :: PUTTUR  
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** ERTS (19CE0129)

**Course & Branch:** B.Tech  
(ME, ECE,EEE&CSE)

**Year & Sem:** III B.Tech & I-Sem

**UNIT –I**

**ROAD ACCIDENTS – CAUSES & PREVENTION**

<b>1</b>	a) Briefly explain about road accidents and how traffic engineer plays role in prevention of road accident	[L2][CO1] [L2][CO1]	[6M]
	b) Explain about engineering uses in collection of accident data?		[6M]
<b>2</b>	Give a detailed discussion about Accident situation in India with past accident data?	[L2][CO1]	[12M]
<b>3</b>	How results are interpreted on road accidents in various countries. List the fatality rates from different countries?.	[L2][CO1]	[12M]
<b>4</b>	Analyze various road geometric design elements and how they are related to cause of Road accidents	[L4][CO1]	[12M]
<b>5</b>	Develop your answer about the following elements in view of causing road accidents. a) The vehicle                      b) Weather                      c) Speed	[L3][CO1]	[12M]
<b>6</b>	a) Come out with brief explanation about parking and its influence on road accidents.	[L2][CO1] [L2][CO1]	[6M] [6M]
	b) Explain about enforcement uses in collection of accident data?		
<b>7</b>	Identify the various measures to be taken into account to prevent the accident caused by	[L3][CO1]	[12M]
	a) Two wheeler driver.                      b) Pedestrian		
<b>8</b>	Apply your knowledge as a graduate and how u suggests various measures to be considered in view of controlling the Road Accidents.	[L3][CO1]	[12M]
<b>9</b>	a) Give the detailed notes on cost of road accidents?.	[L2][CO1]	[4M]
	b) Apply your knowledge to suggest the preventive measures of road accidents by cyclist.	[L4][CO1]	[8M]
<b>10</b>	Bring out the various legislation and education measures to be adopted in prevention of Road accidents.	[L3][CO1]	[12M]



**SIDDARTHA INSTITUTION OF SCIENCE AND TECHNOLOGY ::PUTTUR  
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** ERTS (19CE0129)

**Course & Branch:** B.Tech  
(ME, ECE, EEE & CSE)

**Year & Sem:** III B.Tech & I-Sem

**UNIT –II  
REGULATION OF TRAFFIC AND PARKING**

<b>1</b>	a) What are the need for Traffic regulation? b) List out various Traffic Laws as per Indian motor vehicle Act.	[L1][CO2] [L1][CO2]	[6M] [6M]
<b>2</b>	a) Give the discussion about Regulation of speed at night. b) Discuss about various Speed limits in rural and urban areas.	[L2][CO2] [L2][CO2]	[4M] [8M]
<b>3</b>	a) What are the various enforcement methods and instruments used for detection of speed violators? b) Explain about speed zoning and criteria considered to determine speed zoning.	[L1][CO2] [L2][CO2]	[5M] [7M]
<b>4</b>	Analyze various aspects which are indicated in regulation of vehicles	[L4][CO2]	[12M]
<b>5</b>	Develop your answers for the following elements in view of regulation concerning the driver. a) Licensing of the driver      b) Requirements of physical fitness c) Disqualification and endorsement of licenses	[L3][CO2]	[12M]
<b>6</b>	Explain about various rules adopted in concern to traffic for cyclist and pedestrians	[L2][CO2]	[12M]
<b>7</b>	a) What are the various ill-effects of parking in detail. b) Briefly explain about zoning and parking space requirement of IRC standards	[L1][CO2] [L2][CO2]	[6M] [6M]
<b>8</b>	Identify various common methods in design of on-street parking with sketches.	[L3][CO2]	[12M]
<b>9</b>	Briefly explain the various traffic regulatory measures that should be considered for On-street Parking.	[L2][CO2]	[12M]
<b>10</b>	Give a brief discussion about different types of Off-street parking facilities.	[L2][CO2]	[12M]



**SIDDHARTHA INSTITUTION OF SCIENCE AND TECHNOLOGY :: PUTTUR  
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** ERTS (19CE0129)

**Course & Branch:** B.Tech

**Year & Sem:** III B.Tech & I-Sem

**(ME, ECE,EEE&CSE)**

**UNIT –III  
TRAFFIC SIGNS**

<b>1</b>	a) Write the importance of traffic signs. b) What are the various objectives in general principles of traffic signing?	[L1][CO4] [L2][CO4]	[4M] [8M]
<b>2</b>	Give a detailed discussion about different types of traffic signs	[L2][CO4]	[12M]
<b>3</b>	a) Why traffic signing requires International standardization? b) Briefly explain about traffic signs situation in India.	[L2][CO4] [L2][CO4]	[6M] [6M]
<b>4</b>	Briefly discuss about Warning signs with neat sketches	[L2][CO4]	[12M]
<b>5</b>	Develop your answer about the following elements in view of traffic signs. a) Prohibitory signs b) Warning signs c) Mandatory signs	[L3][CO4]	[12M]
<b>6</b>	Briefly discuss about Mandatory signs with neat sketches	[L1][CO4]	[12M]
<b>7</b>	What do you know about Informatory signs and Route marker signs with neat sketch?	[L1][CO4]	[12M]
<b>8</b>	a) Briefly explain about Indication signs with neat sketch. b) Write the conditions for placing the overhead signs	[L1][CO4] [L2][CO4]	[6M] [6M]
<b>9</b>	Explain with neat sketch in regarding to following signs: a) Advance direction signs b) Overhead signs c) Place identification signs	[L2][CO4]	[12M]
<b>10</b>	Give a brief discussion about Location, Height & Maintenance of traffic signing.	[L2][CO4]	[12M]



**SIDDARTHA INSTITUTION OF SCIENCE AND TECNOLOGY:: PUTTUR  
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** ERTS (19CE0129)

**Course & Branch: B.Tech  
(ME, ECE, EEE & CSE)**

**Year & Sem:** III B.Tech & I-Sem

**UNIT –IV  
TRAFFIC SIGNALS**

<b>1</b>	What is meant by traffic signals? What are the advantages & disadvantages of it?	[L1][CO3]	[12M]															
<b>2</b>	a) Briefly explain concept of signal indications in various country practices. b) Write a note on pedestrian signal indications.	[L2][CO3] [L1][CO3]	[8M] [4M]															
<b>3</b>	a) What is meant by Signal Face, explain it with neat sketch? b) Explain the concept of illumination of signals with specifications.	[L1][CO3] [L2][CO3]	[7M] [5M]															
<b>4</b>	A fixed time 2 phase signal is to be provided at an intersection having a North-South & East-West road where only straight ahead traffic is permitted. The design hour flows from various arms and the saturation flows for these arms are given: <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Type of flow</th> <th>North</th> <th>South</th> <th>East</th> <th>West</th> </tr> </thead> <tbody> <tr> <td><i>Design hour flow (q) in PCU s/hour</i></td> <td>800</td> <td>400</td> <td>750</td> <td>1000</td> </tr> <tr> <td><i>Saturation flow (s) in PCU s/hour</i></td> <td>2400</td> <td>2000</td> <td>3000</td> <td>3000</td> </tr> </tbody> </table> Calculate optimum cycle time & green times for the minimum overall delay. The Intergreen time should be the minimum necessary for efficient operation. The time lost per phase due to starting delays can be assumed to be 2 seconds. The value of the amber period is 2 seconds. Sketch timing diagram for each phase.	Type of flow	North	South	East	West	<i>Design hour flow (q) in PCU s/hour</i>	800	400	750	1000	<i>Saturation flow (s) in PCU s/hour</i>	2400	2000	3000	3000	[L5][CO3]	[12M]
Type of flow	North	South	East	West														
<i>Design hour flow (q) in PCU s/hour</i>	800	400	750	1000														
<i>Saturation flow (s) in PCU s/hour</i>	2400	2000	3000	3000														
<b>5</b>	How Amber period, Red/Amber period and Intergreen period is determined in various countries practices.	[L1][CO3]	[12M]															
<b>6</b>	What is meant by Warrants for signals and explain in detail about different types warrants laid by I.R.C.	[L2][CO3]	[12M]															
<b>7</b>	a) Why co-ordination of signals is needed. b) Briefly explain different types of co-ordinate signal system.	[L1][CO3] [L2][CO3]	[4M] [8M]															
<b>8</b>	a) What is meant by Signal approach dimensions and explain how to determine approach dimensions for a two phase cross-roads. b) The following table gives the flows in the arms of an intersection where a two phase signal is to be designed. Determine proportion of dimensions of approaches & green times for two phases. <table border="1" style="margin: 10px auto;"> <thead> <tr> <th>Arm</th> <th>Flow (vehicle/hour)</th> </tr> </thead> <tbody> <tr> <td><i>North</i></td> <td>4000</td> </tr> <tr> <td><i>South</i></td> <td>3800</td> </tr> <tr> <td><i>East</i></td> <td>1000</td> </tr> <tr> <td><i>West</i></td> <td>900</td> </tr> </tbody> </table>	Arm	Flow (vehicle/hour)	<i>North</i>	4000	<i>South</i>	3800	<i>East</i>	1000	<i>West</i>	900	[L2][CO3] [L5][CO3]	[8M] [4M]					
Arm	Flow (vehicle/hour)																	
<i>North</i>	4000																	
<i>South</i>	3800																	
<i>East</i>	1000																	
<i>West</i>	900																	
<b>9</b>	List out various Traffic control methods & explain any four of them in detail.	[L3][CO3]	[12M]															
<b>10</b>	a) What do you meant by Area traffic control and give the objectives of it b) Give a brief discussion about Delay at signalized intersections.	[L1][CO3] [L2][CO3]	[6M] [6M]															



**SIDDARTHA INSTITUTION OF SCIENCE AND TECHNOLOGY :: PUTTUR  
(AUTONOMOUS)**

Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code:** ERTS (19CE0129)

**Course & Branch: B.Tech  
(ME, ECE,EEE&CSE)**

**Year & Sem:** III B.Tech & I-Sem

**UNIT – V**

**ROAD MARKINGS & STREET LIGHTING**

<b>1</b>	What are the functions of road markings & List out all 14 various types of road markings?	[L1][CO5]	[12M]
<b>2</b>	a) Explain briefly about commonly used Materials and Colours in road markings. b) Briefly explain about stop lines with neat sketch.	[L2][CO5] [L2][CO5]	[6M] [6M]
<b>3</b>	Explain briefly about the following terms with neat sketches: a) Carriageway width reduction transition markings. b) Obstruction approach markings.	[L2][CO5] [L2][CO5]	[6M] [6M]
<b>4</b>	a) Explain the concept of centre lines with neat sketch. b) What is meant by pedestrian crossings and explain with neat sketch	[L2][CO5] [L1][CO5]	[6M] [6M]
<b>5</b>	Develop your answer about the following elements in view of road markings i) Pavement edge lines ii) Traffic lane lines iii) No overtaking zone markings	[L3][CO5]	[12M]
<b>6</b>	a) Why street lighting is needed for road users. b) Define the following terms i) Luminous flux & Lumen ii) Steradian iii) Lighting system	[L1][CO6] [L1][CO6]	[5M] [7M]
<b>7</b>	Briefly explain about illumination of traffic rotaries with detailed sketch.	[L2][CO6]	[12M]
<b>8</b>	Explain about the following terms in view of Street lighting. i) Mounting height ii) Spacing of lanterns iii) Single-sided lantern d) Central mounting lantern	[L2][CO6]	[12M]
<b>9</b>	Briefly explain about various types of Lamps used in street lighting in view of road traffic safety at night time on roads	[L2][CO6]	[12M]
<b>10</b>	a) Explain briefly about tunnel lighting. b) Write in detail about lighting at bends.	[L2][CO6] [L2][CO6]	[6M] [6M]

**Prepared by:  
Miss.S. RESHMA/ Associate Professor/Civil**