**CS 451**

**Activity 8**

**(As a group of two or three team members)**

**When an organization’s problem is solved, the following seven-step model-building procedure should be followed:**

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| 1. Formulate the Problem    * Define the problem.    * Specify objectives.    * Determine parts of the organization to be studied. 2. Observe the System    * Determine parameters affecting the problem.    * Collect data to estimate values of the parameters. 3. Formulate a Mathematical Model of the Problem 4. Verify the Model and Use the Model for Prediction    * Does the model yield results for values of decision variables not used to develop the model?    * What eventualities might cause the model to become invalid? 5. Select a Suitable Alternative    * Given a model and a set of alternative solutions, determine which solution best meets the organizations objectives. 6. Present the Results and Conclusion(s) of the Study to the Organization 7. Implement and Evaluate Recommendations |

**Suggest the seven-step model-building procedure to develop the following police patrol scheduling system (PPSS).**

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| * Taylor and Huxley (1989) developed a police patrol scheduling system (PPSS).   + All San Francisco (SF) police precincts use the PPSS to schedule their officers.   + It is estimated that the PSS saves the SF police more than $5 million annually.   + Other cities have also adopted PPSS. * Following the seven-step model here is a description of PPSS. |