Advanced Engineering Systems and Design Name: _____

Activity 5.1.3 Connecting the Journey Period: _____

Part I – Station Keeping

1. Why do satellites need thrusters even after reaching orbit?

2. What is station keeping?

Part II – Hydrazine Systems

3. Describe how a hydrazine thruster produces thrust.

4. Give two advantages of hydrazine propulsion.

a) _____
b) _____

5. Give two disadvantages.

a) _____
b) _____

Part III – Electric Propulsion

6. How does electric propulsion differ from chemical propulsion?

7. Why can electric propulsion not launch a rocket from Earth?

8. Why is electric propulsion effective in space?

Part IV – Comparison & Engineering Thinking

9. Which propulsion system provides higher thrust?

10. Which propulsion system is more efficient? Why?

11. For a Mars mission, which propulsion system would you choose for in-space travel? Explain.

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12. For a GEO satellite, which propulsion system is most practical? Explain.
