Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12127844***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***JUAN MIGUEL BARRIENTOS GARCIA***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{4, 2, 7, 5, 2, 9, 4, 2, 3, 7, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 3x(k) - x(k-1) - \frac{1}{9}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{7}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 6z + 9}{9z^2 + 4z + 8}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.2z^3 + 0.07z^2 + 0.5z - 0.002$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12132791***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***ISRAEL GONZALEZ***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{6, 6, 8, 3, 9, 5, 7, 7, 8, 7, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 8x(k) - x(k-1) - \frac{1}{4}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{7}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 6z + 6}{6z^2 + 8z + 2}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.6z^3 + 0.08z^2 + 0.3z - 0.009$$

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***10062268***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***JULIO ALEJANDRO MARIN GARCIA***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{9, 6, 7, 3, 3, 5, 4, 6, 2, 8, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 8x(k) - x(k-1) - \frac{1}{2}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{8}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 5z + 2}{2z^2 + 6z + 3}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.6z^3 + 0.07z^2 + 0.3z - 0.003$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***98017052***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***LUIZ EDUARDO***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{6, 6, 3, 2, 9, 6, 6, 2, 3, 8, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 2x(k) - x(k-1) - \frac{1}{5}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{8}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 5z + 3}{5z^2 + 5z + 3}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.6z^3 + 0.03z^2 + 0.2z - 0.009$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12125213***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***EMMANUEL ALEJANDRO***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{6, 4, 5, 3, 9, 8, 2, 8, 9, 3, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 3x(k) - x(k-1) - \frac{1}{5}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{3}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 5z + 2}{9z^2 + 2z + 9}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.4z^3 + 0.05z^2 + 0.3z - 0.009$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12146394***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***JOSELY ROSALES***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{3, 2, 8, 7, 7, 4, 4, 4, 9, 8, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 5x(k) - x(k-1) - \frac{1}{4}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{8}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 5z + 9}{5z^2 + 3z + 4}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.2z^3 + 0.08z^2 + 0.7z - 0.007$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12146385***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ / 10
Student's name	***RODRIGUEZ PEREZ RODOLFO***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{3, 8, 3, 2, 4, 7, 7, 6, 5, 9, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 9x(k) - x(k-1) - \frac{1}{3}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{9}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 5z + 7}{6z^2 + 7z + 2}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.8z^3 + 0.03z^2 + 0.2z - 0.004$$

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Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***10056986***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***ARTURO CORDERO ROBLES***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{3, 5, 7, 9, 8, 2, 9, 3, 5, 2, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 8x(k) - x(k-1) - \frac{1}{5}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{2}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 6z + 9}{8z^2 + 7z + 2}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.5z^3 + 0.07z^2 + 0.9z - 0.008$$

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Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12157333***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***EDGAR RICARDO CHAIREZ VILLARRIAL***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{8, 5, 4, 6, 2, 2, 3, 4, 8, 6, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 4x(k) - x(k-1) - \frac{1}{4}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{6}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 9z + 6}{7z^2 + 3z + 6}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.5z^3 + 0.04z^2 + 0.6z - 0.002$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***12142724***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***ALLISON DANIELA MACIAS HERNANDEZ***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{5, 8, 6, 5, 7, 9, 6, 4, 4, 9, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 5x(k) - x(k-1) - \frac{1}{6}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{9}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 4z + 6}{5z^2 + 5z + 4}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.8z^3 + 0.06z^2 + 0.5z - 0.007$$

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Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***10068360***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***KIM EDUARDO SANCHEZ REYES***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{3, 6, 2, 6, 6, 6, 8, 4, 8, 2, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 4x(k) - x(k-1) - \frac{1}{2}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{2}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 7z + 3}{9z^2 + 2z + 6}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.6z^3 + 0.02z^2 + 0.6z - 0.006$$

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***11288180***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***JORGE ANTONIO MOLINA RAMIREZ***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{7, 7, 9, 5, 9, 5, 7, 9, 3, 5, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 5x(k) - x(k-1) - \frac{1}{5}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{5}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 3z + 4}{3z^2 + 2z + 6}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.7z^3 + 0.09z^2 + 0.5z - 0.009$$

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***10053330***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***JOSE FERNANDO AGUILAR COLORADO***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{3, 3, 3, 3, 6, 6, 3, 9, 9, 9, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 5x(k) - x(k-1) - \frac{1}{2}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{9}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 4z + 9}{2z^2 + 6z + 5}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.3z^3 + 0.03z^2 + 0.3z - 0.006$$

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***10073388***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***AXEL JAVIER RODRIGUEZ MARIN***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{2, 6, 3, 7, 9, 6, 9, 3, 8, 6, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 9x(k) - x(k-1) - \frac{1}{2}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{6}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 9z + 5}{2z^2 + 6z + 7}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.6z^3 + 0.03z^2 + 0.7z - 0.009$$

Universidad Autónoma de Coahuila

Facultad de Ingeniería Mecánica y Eléctrica

Unidad Torreón

Subject	Digital control	Group	9A
Degree	Electrical engineering	Due for	08/11/2016
Exam / Homework	Exam 2	Registration #	***6052185***
Professor's name	Dr. Suresh Kumar Gadi	Marks Obtained	_____ /10
Student's name	***ROGELIO CASTILLO REYES***		

Instructions

1. In the calculations, the student should maintain at least a precision of 3 decimal places with a correct rounding. (20% of the marks obtained will be reduced)

Questions

1. Find the Z-transform of the function $u(k) = \{7, 3, 2, 9, 9, 6, 7, 6, 5, 5, 0, 0, 0\}$. (2 points)
2. Apply Z-transform to the following equation. (2 points)

$$y(k) = 9x(k) - x(k-1) - \frac{1}{4}y(k-1)$$

3. Find the inverse Z-transform of the following function. (2 points)

$$F(z) = \frac{5}{1 - z^{-1}}$$

4. Draw block diagram for the following transfer function. (2 points)

$$\frac{y(z)}{x(z)} = \frac{z^2 + 9z + 9}{5z^2 + 7z + 7}$$

5. Determine the stability of the following system with the help of Jury's test. (2 points)

$$F(z) = z^4 - 1.3z^3 + 0.02z^2 + 0.9z - 0.009$$