

SET 1

Sub: MATHEMATICS-II
 Time: 20 MIN
 Roll. No: _____

Date: 8/05/2017
 Max.Marks:10

Invigilator signature: _____

MULTIPLE CHOICE QUESTIONS

- Z-Transform of a unit step sequence is _____ []
 a) 1 b) 0 c) $\frac{z}{z-1}$ d) none
- If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []
 a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$
- $F_c(e^{-at}) =$ _____ []
 a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$
- The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []
 a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none
- $Z(n) =$ _____ []
 a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none
- The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []
 a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$
- $Z\left(\frac{1}{n}\right) =$ _____ []
 a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$
- $Z\left(\frac{1}{n+1}\right) =$ _____ []
 a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

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 a) 1 b) 0 c) $\frac{z}{z-1}$ d) none
- If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []
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- $F_c(e^{-at}) =$ _____ []
 a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$
- The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []
 a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none
- $Z(n) =$ _____ []
 a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none
- The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []
 a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$
- $Z\left(\frac{1}{n}\right) =$ _____ []
 a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$
- $Z\left(\frac{1}{n+1}\right) =$ _____ []
 a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

9. $Z(5^n) = \text{-----}$ []

a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

10. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) = \text{-----}$

a) n^2 b) n^3 c) na^n d) n []

FILL IN THE BLANKS

11. $Z(\cos n\theta) = \text{-----}$

12. $Z(n^4) = \text{-----}$

13. Fourier sine integral formula is given by _____.

14. Infinite Fourier Sine transform of $f(x)$ is _____

15. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

TRUE/FALSE

16. $Z(1) = \frac{z}{z-1}$ []

17. $Z(n^2) = \frac{z^2+z}{(z-1)^4}$ []

18. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

19. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

20. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

9. $Z(5^n) = \text{-----}$ []

a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

10. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) = \text{-----}$

a) n^2 b) n^3 c) na^n d) n []

FILL IN THE BLANKS

11. $Z(\cos n\theta) = \text{-----}$

12. $Z(n^4) = \text{-----}$

13. Fourier sine integral formula is given by _____.

14. Infinite Fourier Sine transform of $f(x)$ is _____

15. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

TRUE/FALSE

16. $Z(1) = \frac{z}{z-1}$ []

17. $Z(n^2) = \frac{z^2+z}{(z-1)^4}$ []

18. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

19. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

20. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

SET 2

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MULTIPLE CHOICE QUESTIONS

1. $Z\left(\frac{1}{n}\right) =$ _____ []
- a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$
2. $Z\left(\frac{1}{n+1}\right) =$ _____ []
- a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none
3. Z-Transform of a unit step sequence is _____ []
- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none
4. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []
- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$
5. $F_c(e^{-at}) =$ _____ []
- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$
6. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []
- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none
7. $Z(n) =$ _____ []
- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none
8. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []
- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

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MULTIPLE CHOICE QUESTIONS

1. $Z\left(\frac{1}{n}\right) =$ _____ []
- a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$
2. $Z\left(\frac{1}{n+1}\right) =$ _____ []
- a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none
3. Z-Transform of a unit step sequence is _____ []
- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none
4. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []
- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$
5. $F_c(e^{-at}) =$ _____ []
- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$
6. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []
- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none
7. $Z(n) =$ _____ []
- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none
8. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []
- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

9. $Z(5^n) = \text{-----}$ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

10. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) = \text{-----}$

- a) n^2 b) n^3 c) na^n d) n []

FILL IN THE BLANKS

11. Fourier sine integral formula is given by _____.

12. Infinite Fourier Sine transform of $f(x)$ is _____

13. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

14. $Z(\cos n\theta) = \text{-----}$

15. $Z(n^4) = \text{-----}$

TRUE/FALSE

16. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

17. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

18. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

19. $Z(1) = \frac{z}{z-1}$ []

20. $Z(n^2) = \frac{z^2+z}{(z-1)^4}$ []

9. $Z(5^n) = \text{-----}$ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

10. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) = \text{-----}$

- a) n^2 b) n^3 c) na^n d) n []

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11. Fourier sine integral formula is given by _____.

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14. $Z(\cos n\theta) = \text{-----}$

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TRUE/FALSE

16. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

17. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

18. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

19. $Z(1) = \frac{z}{z-1}$ []

20. $Z(n^2) = \frac{z^2+z}{(z-1)^4}$ []

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MULTIPLE CHOICE QUESTIONS

1. Z-Transform of a unit step sequence is _____ []

- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none

2. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []

- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$

3. $F_c(e^{-at}) =$ _____ []

- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$

4. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []

- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none

5. $Z(5^n) =$ _____ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

6. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) =$ _____

- a) n^2 b) n^3 c) na^n d) n []

7. $Z(n) =$ _____ []

- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none

8. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []

- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

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MULTIPLE CHOICE QUESTIONS

1. Z-Transform of a unit step sequence is _____ []

- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none

2. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []

- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$

3. $F_c(e^{-at}) =$ _____ []

- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$

4. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []

- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none

5. $Z(5^n) =$ _____ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

6. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) =$ _____

- a) n^2 b) n^3 c) na^n d) n []

7. $Z(n) =$ _____ []

- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none

8. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []

- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

9. $Z\left(\frac{1}{n}\right) = \underline{\hspace{2cm}}$ []

a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$

10. $Z\left(\frac{1}{n+1}\right) = \underline{\hspace{2cm}}$. []

a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

FILL IN THE BLANKS

11. Fourier sine integral formula is given by _____.

12. Infinite Fourier Sine transform of $f(x)$ is _____

13. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

14. $Z(\cos n\theta) = \underline{\hspace{2cm}}$

15. $Z(n^4) = \underline{\hspace{2cm}}$

TRUE/FALSE

16. $Z(1) = \frac{z}{z-1}$ []

17. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

18. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

19. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

20. $Z(n^2) = \frac{z^2 + z}{(z-1)^4}$ []

9. $Z\left(\frac{1}{n}\right) = \underline{\hspace{2cm}}$ []

a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$

10. $Z\left(\frac{1}{n+1}\right) = \underline{\hspace{2cm}}$. []

a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

FILL IN THE BLANKS

11. Fourier sine integral formula is given by _____.

12. Infinite Fourier Sine transform of $f(x)$ is _____

13. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

14. $Z(\cos n\theta) = \underline{\hspace{2cm}}$

15. $Z(n^4) = \underline{\hspace{2cm}}$

TRUE/FALSE

16. $Z(1) = \frac{z}{z-1}$ []

17. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

18. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

19. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

20. $Z(n^2) = \frac{z^2 + z}{(z-1)^4}$ []

SET 4

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MULTIPLE CHOICE QUESTIONS

1. $F_c(e^{-at}) =$ _____ []

- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$

2. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []

- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none

3. $Z(5^n) =$ _____ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

4. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) =$ _____ []

- a) n^2 b) n^3 c) na^n d) n

5. $Z(n) =$ _____ []

- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none

6. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []

- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

7. Z-Transform of a unit step sequence is _____ []

- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none

8. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []

- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$

SET 4

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MULTIPLE CHOICE QUESTIONS

1. $F_c(e^{-at}) =$ _____ []

- a) $\frac{a}{a+p}$ b) $\frac{p}{a+p}$ c) $\frac{a}{a^2+p^2}$ d) $\frac{p}{a^2+p^2}$

2. The p.d.e by eliminating the arbitrary constants from $z = (x+a)(y+b)$ is _____ []

- a) $z=pq$ b) $z=p+q$ c) $z=p/q$ d) none

3. $Z(5^n) =$ _____ []

- a) $\frac{z}{z+5}$ b) $\frac{z}{z-5}$ c) $\frac{z}{(z-5)^2}$ d) $\frac{z}{(z+5)^2}$

4. $Z^{-1}\left(\frac{az}{(z-a)^2}\right) =$ _____ []

- a) n^2 b) n^3 c) na^n d) n

5. $Z(n) =$ _____ []

- a) $\frac{z}{z+1}$ b) $\frac{z}{z-1}$ c) $\frac{z}{(z-1)^2}$ d) none

6. The p.d.e by eliminating the arbitrary constants from $z = f(x^2 + y^2)$ is _____ []

- a) $py+qx=0$ b) $py-qx=0$ c) $px+qy=0$ d) $px-qy=0$

7. Z-Transform of a unit step sequence is _____ []

- a) 1 b) 0 c) $\frac{z}{z-1}$ d) none

8. If $F\{f(x)\} = f(p)$ then $F\{f(ax)\} =$ _____ []

- a) $\frac{1}{a}F\left(\frac{p}{a}\right)$ b) $F\left(\frac{p}{a}\right)$ c) $F(p)$ d) $F\left(\frac{a}{p}\right)$

9. $Z\left(\frac{1}{n}\right) = \underline{\hspace{2cm}}$ []

a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$

10. $Z\left(\frac{1}{n+1}\right) = \underline{\hspace{2cm}}$. []

a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

FILL IN THE BLANKS

11. Fourier sine integral formula is given by _____.

12. Infinite Fourier Sine transform of $f(x)$ is _____

13. $Z(\cos n\theta) = \underline{\hspace{2cm}}$

14. $Z(n^4) = \underline{\hspace{2cm}}$

15. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

TRUE/FALSE

16. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

17. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

18. $Z(n^2) = \frac{z^2 + z}{(z-1)^4}$ []

19. $Z(1) = \frac{z}{z-1}$ []

20. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []

9. $Z\left(\frac{1}{n}\right) = \underline{\hspace{2cm}}$ []

a) $\log\left(\frac{z}{z-1}\right)$ b) $z \log\left(\frac{z}{z-1}\right)$ c) e^z d) $e^z - 1$

10. $Z\left(\frac{1}{n+1}\right) = \underline{\hspace{2cm}}$. []

a) $e^{\frac{1}{z}}$ b) $\log\left(\frac{z}{z-1}\right)$ c) $z \log\left(\frac{z}{z-1}\right)$ d) none

FILL IN THE BLANKS

11. Fourier sine integral formula is given by _____.

12. Infinite Fourier Sine transform of $f(x)$ is _____

13. $Z(\cos n\theta) = \underline{\hspace{2cm}}$

14. $Z(n^4) = \underline{\hspace{2cm}}$

15. By eliminating a and b from $z = ax^3 + by^3$, the p.d.e formed is _____

TRUE/FALSE

16. $Z\left(\frac{1}{(n+1)!}\right) = e^{\frac{1}{z}} - 1$. []

17. If $Z(u_n) = U(z)$ then $Z(a^{-n}u_n) = U(az)$ []

18. $Z(n^2) = \frac{z^2 + z}{(z-1)^4}$ []

19. $Z(1) = \frac{z}{z-1}$ []

20. $Z^{-1}\left[\frac{4z}{(z-4)^2}\right] = n4^n$ []