UNIT 1 PARTIAL DIFFERENTIAL EQUATIONS

PART B

1. From the partial differential equation by eliminating the arbitrary functions f and g from $z = f(2x+y)+g(3x-y)$
2. From the partial differential equation by eliminating the arbitrary functions f and g from $z = f(x + t) + g(x - t)$.
3. From the partial differential equation by eliminating the arbitrary functions f and g from $z = x^2 f(y)+y^2 g(x)$.
4. From the partial differential equation by eliminating the arbitrary functions f and g from $z = f(x + ct) + g(x - ct)$.
5. Find singular solution of the equation $z = px+qy+p^2+pq+q^2$
6. Solve p-q=0
7. Solve p+q=pq
8. Solve $z = px+qy+\sqrt{1+p^2+q^2}$
9. Solve : $z = px+qy+p^2-q^2$
10. Solve : $z = px+qy+p^2q^2$.
11. Solve: $z^2 = p^2+q^2+1$
12. Solve $\sqrt{p}+\sqrt{q} = x+y$
13. Solve $xp+yq = x$
14. Solve $ptanx+qtany = tanz$
15. Solve : $x(y-z)p+y(z-x)q = z(x-y)$
16. Solve : $(mz-ny)p+(nx-lz)q = ly-mx$.
17. Solve : $(3z-4y)p+(4x-2z)q = 2y-3x$
18. Solve : $x(z^2-y^2)p+y(x^2-z^2)q = z(y^2-x^2)$
19. Solve : $x(y-z)p+y(z-x)q = z(x-y)$
20. Solve : $(y+z)p+(z+x)q = x+y$
21. Solve $(D^2-4DD^1+4D^{1^2})Z = e^{2x+y}$
22. Solve $(D^2-4DD')Z = \sin(2x+y)$
23. Solve : $(D^2-7DD'+6D'^2)z = xy$

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24. Solve $(D^2 - 4DD^1 + 4D^{1^2})Z = xy$

25. Solve : $(D^2 - 2DD')z = e^{2x} + x^3y$

26. Solve : $(D^2 - 4DD' + 4D'^2)z = xy + e^{x+2y}$

27. Solve : $(D^2 - 2DD' + D'^2)z = \cos(x - 3y)$.

28. Solve : $(D^3 - 4D^2D' + 4D'^2)z = 6\sin(3x + 6y)$.

29. Solve : $(D^2 - DD' - 20D'^2)z = e^{5x+y} + \sin(4x - y)$.

30. Solve $r + s - 6t = ycosx$

31.