

IMSEC ENGINEERING COLLEGE		IMSEC/QF/48
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		Issue No: 02
Tutorials/ Assignments/ Quizzes		Issue Date: 1 May 2010
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Subject Code- KAS-302	Subject Name - Mathematics-IV	Semester: 3
Session:	Name of Instructor:	Batch:

Assignment-1

- 1..Solve the partial differential equation $x(y^2 + z)p - y(x^2 + z)q = z(x^2 - y^2)$ using Lagrange's method.
2. Solve : $\frac{\partial^2 z}{\partial x^2} + \frac{\partial^2 z}{\partial y^2} = \cos mx \cos my + 30(2x + y)$
3. Solve : $(D^2 + DD' - 6D'^2)z = y \sin x$
4. Solve: $((D^2 - DD' - 2D'^2 + 2D + 2D')z = e^{2x+3y} + \sin(2x + y) + xy$
5. Solve $p^2 - qy^2 = y^2 - x^2$ by Charpit's method:
6. Solve $(y^2 + z^2)p - xyq = -zx$
7. Solve $\sqrt{p} + \sqrt{q} = 1$
8. Solve: $x^2 p^2 + y^2 q^2 = z^2$
9. Solve the following differential equations: $(x^2 - yz)p + (y^2 - zx)q = (z^2 - yx)$
10. Solve $(mz - ny)\frac{\partial z}{\partial x} + (nx - lz)\frac{\partial z}{\partial y} = ly - mx$
11. Solve $r - 2s = \sin x \cdot \cos 2y$
12. Solve $r + t - n^2 z = 0$.
13. Solve the partial differential equation $x(y^2 + z)p - y(x^2 + z)q = z(x^2 - y^2)$ using Lagrange's method
14. Solve : $x^2 r - y^2 t + px - qy = \log x$
15. Solve : $(D^2 + DD' - 2D'^2)z = (y - 1)e^x$
16. Solve: $((D^2 - 6DD' + 9D'^2)z = 36xy$
17. Solve : $x^2 r - y^2 t = xy$
18. Solve : $(x^2 D^2 + 2xyDD' + y^2 D'^2)z = x^m y^n$
19. Solve: $((D - 3D' - 2)^2 z = 2e^{2x} \tan(y + 3x)$
20. Solve: $((D^2 - DD' + D' - I)z = e^y + \cos(x + 2y)$