9. $z = f\left(\frac{xy}{z}\right)$

10. $z = y^2 + 2f\left(\frac{1}{x} + \log y\right)$

11. $z = f(x + ct) + g(x - ct)$

12. $z = x\, f_1 (x + t) + f_2 (x + t)$

13. $z = y\, f(x) + x\, g(y)$

14. $z = f(x) + e^y\, g(x)$

15. $F(xy + z^2, x + y + z) = 0$

16. $F(x^2 + y^2 + z^2, z^2 - 2xy) = 0$

17. $F(x^2 + y^2 + z^2, xyz) = 0$

18. Find the differential equation of all planes through the origin.

19. Find the differential equation of all planes which makes an equal intercepts on x and y axes.

20. Find the differential equation of all spheres of radius c whose centres lie on the plane $z = 0$.

21. Find the differential equation of all planes which are at a constant distance a from the origin.