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Courses » Ordinary and Partial Differential Equations and Applications

Announcements **Course** Ask a Question Progress Mentor FAQ

# Unit 1 - How to access the portal

## Course outline

### How to access the portal

- How to access the home page?
- How to access the course page?
- How to access the MCQ, MSQ and Programming assignments?
- Quiz : Assignment 0
- New Lesson

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

## Assignment 0

The due date for submitting this assignment has passed.

As per our records you have not submitted this assignment. **Due on 2018-07-30, 23:59 IST.**

1) **1 point**  
 Let  $z = f(x, y)$ . Then the general solution of the partial differential equation

$$\frac{\partial^2 z}{\partial x \partial y} = \frac{1}{xy^2} - \frac{2x}{y}$$

is

$z = -\frac{1}{y} \ln x - x^2 \ln y + \phi(y) + \psi(x)$

$z = -\frac{1}{y^2} \ln x - \frac{x^2}{y} + \phi(y)$

$z = -\frac{1}{xy} - 2x \ln y + \psi(x)$

$z = -\frac{1}{y} \ln x - x^2 \ln y + \phi(y)$

**No, the answer is incorrect.**

**Score: 0**

**Accepted Answers:**

$z = -\frac{1}{y} \ln x - x^2 \ln y + \phi(y) + \psi(x)$

2) The general solution of the differential equation **1 point**

$\frac{dy}{dx} + y \sin x = (e^{-\cos x})y^2$  is

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$e^{-\cos x} y = -x + c$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$e^{\cos x} \frac{1}{y} = -x + c$

3) Let  $z = f(x, y)$ ,  $p = \frac{\partial z}{\partial x}$  and  $q = \frac{\partial z}{\partial y}$ . 1 point

The partial differential equation obtained by eliminating the arbitrary constants  $a$  and  $b$  from the equation

$2z = (ax + y)^2 + b$  is

$py + qx = p^2$

$x + qy = p^2$

$px + qy = q^2$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$px + qy = q^2$

4) 1 point

Eliminating the arbitrary function  $f$  from the equation  $z = f(x^2 - y^2)$ , we get

$4xp + yq = 0$

$yp + xq = 0$

$p + qx = 0$

$py + q = 0$

No, the answer is incorrect.

Score: 0

Accepted Answers:

$yp + xq = 0$

5) The number of solution of differential equation 1 point

$xy' = y - 1, y(0+) = 1$  is

only one

exactly two

infinite

zero

No, the answer is incorrect.

Score: 0

Accepted Answers:  
*infinite*

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