

Past Q. D.



IOE Entrance Preparation!

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(Rank -30)

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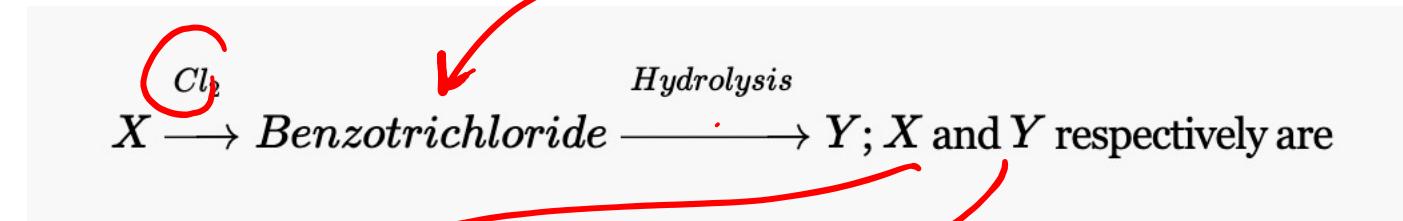
Past Questions Discussions

Date: 14th Kartik, 2080

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1) X and Y are?



- a) Toulene and benzoic acid
- b) Benzene and Benzaldehyde
- c) Toulene and benzaldehyde
- d) Benzene and Benzoic Acid

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$$\int (\tan^2 \theta \cdot \sec \theta + \tan \theta) d\theta$$

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2) $\int (\tan^4 \theta + \sec^2 \theta - 1) \cdot d\theta = ?$

- a) $(\tan^3 \theta)^{\frac{1}{3}} + c$
c) $(\tan \theta)^{\frac{1}{3}} + c$

- b) $(\tan^4 \theta)^{\frac{1}{4}} + c$
d) none

$$\int (\tan^2 \theta (\sec^2 \theta - 1) + \tan^2 \theta) d\theta$$

$$\int \tan^2 \theta \cdot \sec^2 \theta \cdot d\theta$$

$$\begin{aligned} \tan \theta &= y \\ dy &= \sec^2 \theta \cdot d\theta \end{aligned}$$

$$\begin{aligned} &\int y^2 \cdot dy \\ &\frac{y^3}{3} + c \end{aligned}$$

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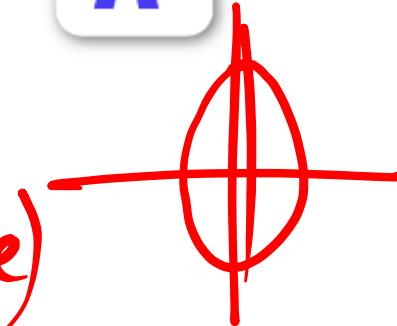
3) $\frac{x^2}{2} + \frac{y^2}{9} = 1$, Focci is?

ellipse

$$\frac{x^2}{a^2} + \frac{y^2}{b^2} = 1$$

$$a = \sqrt{2}, b = 3$$

$$(0, \pm b e)$$



- a) $(\pm\sqrt{7}, 0)$
- c) $(\pm\frac{\sqrt{7}}{2}, 0)$

$$e = \sqrt{1 - \frac{2}{9}} \\ = \frac{\sqrt{7}}{3}$$

- b) $(0, \pm\sqrt{7})$
- d) none

$$(0, \pm \frac{\sqrt{2} \times 3}{3}) = (0 \pm \sqrt{7})$$

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$n=1$:

$$\sum \frac{n(n+1)(2n+1)}{6}$$



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4) Sum of Series $1^2 + (1^2 + 2^2) + (1^2 + 2^2 + 3^2) + \dots$ is

$$\frac{1 \times 4 \times 3}{12} \cancel{\times} 1$$

a) $\frac{n(n+1)^2(n+2)}{12}$

$$b) \frac{n(n+1)(n+2)^2}{12} \cancel{\times} \frac{1 \times 2 \times 16}{12 \times 6}$$

$n=1$

$$c) \frac{n(n+1)^2(n+2)}{6}$$

d) none \cancel{x}

$$\cancel{\frac{1 \times 4 \times 3}{2 \times 6 \times 8}}$$

$$an^2 + 2hny + by^2 + 2gn + 2hy + c = 0$$

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$$g=2 : a=1, e=1, b=2$$

5) Distance between the straight lines represented by $x^2 + 2\sqrt{2}xy + 2y^2 + 4x + 4\sqrt{2}y + 1 = 0$ is

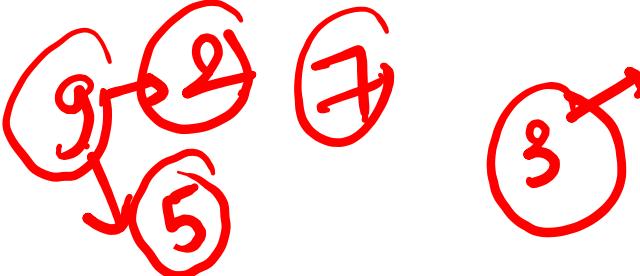
$$2 \sqrt{\frac{g^2 - ae}{a(a+b)}}$$

- (a) 2
- b) 3
- c) 4
- d) 1

$$2 \sqrt{\frac{4 - |x|}{|x|(3)}}$$

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7C₃



be selected

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6) In how many ways 5 courses out of 9 courses if 2 courses are compulsory?

(a) 42

~~b) 35~~

c) 44

d) none

$$\frac{7!}{4! \times 3!}$$

$$\cancel{\frac{7! \times 6! \times 5!}{6}}$$

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7) ZnO is reduced by

- (a) Carbon reduction
- (b) Smelting
- (c) oxygen
- (d) None

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$$\int \theta \cdot d\theta = \int \theta = \frac{\theta^2}{2} + C$$

8) $\int_0^1 \log_e(\tan \theta) \cdot d\theta = ? \text{ at } \theta = \frac{\pi}{4}$

$$\underline{\underline{(c-c)}}$$

(a) 1

b) 2

~~c) 0~~

d) none

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9) Who discovered Nucleus of atom?

- a) Ernest Rutherford
- b) Robert Hooke
- c) Thompsons
- d) Rajan Panta

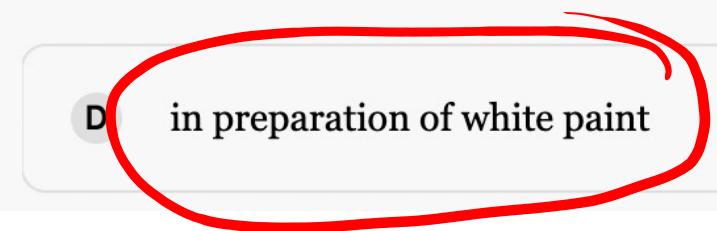
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10)

Sulphuric acid can not be used:

- A as a pickling agent
- B in lead storage batteries
- C in making of Rayon fibre
- D in preparation of white paint



D

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$$M = 50.1. = P(M) = \frac{50}{100} = 0.5$$



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$P(M \cap B) = 0.15$ 11) If 50% students takes maths, 25% students takes Biology, 15% takes both maths and Biology. What is the probability that students takes Maths if It is known that he studies biology?

- a) ~~3/5~~ b) 4/5 c) 2/5 d) 1

$$P(M|B) = \frac{P(M \cap B)}{P(B)} = \frac{0.15}{0.25} = \frac{3}{5}$$

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12) Molecular formula of Zinc Blende is?

- a) ZnS
- b) ZnO
- c) ZnCl₂
- d) none

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13) Which one acts as both oxidising and reducing agent?

- a) SO_2
- b) O_3
- c) $HN O_3$
- d) None

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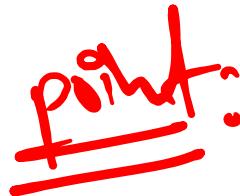
14) Which is correct?

i) It is a four-men committee.

~~ii)~~ It is a 2-hour journey.

~~iii)~~ Both

iv) None



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15) Where born?

- i) are you
- ~~ii) Were you~~
- iii) Will you
- iv) None

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**Never let
you go
down!**

Thank you!