Different between bond order of CO^+ and NO^+ is $X/2$ then what is X

Ans. X = 1
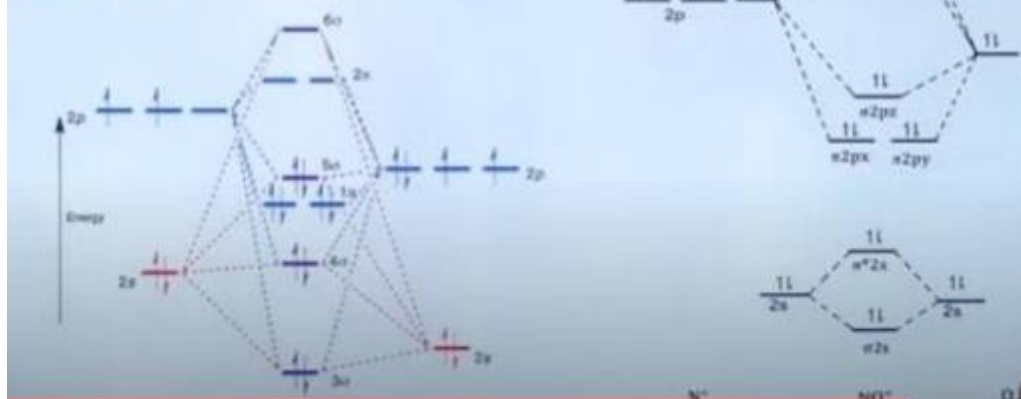
$CH_4 + I_2 \xrightarrow{h\nu} CH_3I + HI$ which of the following reagent will prevent the reaction in backward direction.

A. HIO_3

B. $HOCl$

C. dil HNO_2

D. Liq NH_3

Ans : A

Which test is used for distinguishing between monosaccharides and disaccharides ?

Ans. Barfoed's test

What is the formula of mustard gas

Ans. $C_4H_8Cl_2S$

Which of the following is incorrect about ellingham diagram.

A. It gives idea about the rate of reaction

B. It gives idea about reduction of metal oxides

C. It gives idea about free energy for the reduction process

Ans : A

Assertion : → Aniline is less Basic than Acetamide

Reason : → Lone pair of N is involved in Resonance.
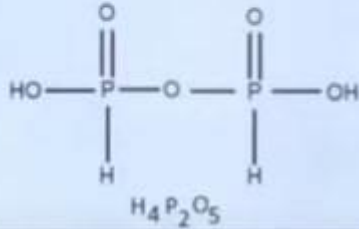
Ans. Assertion is wrong but reason is correct

Which Base in complementary to thymine is DNA

Ans. Adenine

What is the oxidation state of "P" in $H_4P_2O_7$, $H_4P_2O_6$ and $H_4P_2O_5$

Ans :

$H_4P_2O_6 \rightarrow +4$, $H_4P_2O_5 \rightarrow +3$ $H_4P_2O_7, \rightarrow +5$

$H_4P_2O_5$

JEE Main July 27 Shift 1 Physics Questions and Answers

A body cools form 61°C to 59°C in T_0 how much time it would take to cool from 51°C to 49°C. If room temperature is 30°C.

Ans. $T = 1.5T_0$

A particle is executing SHM and its amplitude is a. If its total energy is E and it's kinetic energy is $\frac{3E}{4}$ then displacement 'y' is

Ans. $\left[y = \frac{a}{2} \right]$

→ 9m/s
m   2m (rest)   (rest)

□   □   2m

e=1   e = 0

Find final speed of 2m mass after all collision.

Ans. $V_f = 3m/s$

$C_{medium} = 10^8$ m/s

$\epsilon_r = ?$

$\mu_r = 1$

Ans. $\boxed{\epsilon_r = 9}$

3×16^7

$C_0 = \dfrac{1}{\sqrt{\mu_0 \epsilon_0}}$

$C = \dfrac{1}{\sqrt{\mu_0 \mu_r \epsilon_0 \epsilon_r}}$

In YDSE experiment. If wavelength of light changes from orange to blue. then.

A. Intensity of maxima will increase

B. Intensity of maxima will decrease

C. fringes will shrink.

D. fringes will expand.

Ans. C

JEE Main July 27 Shift 1 Maths Questions and Answers

$$f(x) = \begin{cases} (1+(|\sin x|))^{\frac{3a}{|\sin x|}} & \dfrac{-\pi}{4} < x \leq 0 \\ b & x = 0 \\ e^{\frac{\cot 4x}{\cot 2x}} & x > 0 \end{cases}$$

$e^{3a} = b = \cdot$

$a = \dfrac{1}{6}$

If f(x) is continuous at x = 0. Find $6a + b^2$

Ans. $1 + e$

Find the probability that two digit numbers of the form 2^n − 2 is divisible by 3

Ans. $\dfrac{1}{3}$

$$\lim_{n \to \infty} \dfrac{1}{n} \sum_{J=1}^{n} \dfrac{(2J-1)+8n}{(2J-1)+4n}$$

Ans. $1 + 2 \ln \dfrac{3}{2}$

$$\lim_{x \to \infty} \dfrac{1}{n} \sum_{J=1}^{n} \dfrac{(2J-1)+8n}{(2J-1)+4n}$$

Ans. $1 + 2 \ln \dfrac{3}{2}$

If $\sin \theta + \cos \theta = \dfrac{1}{2}$. Find $16 (\sin 2\theta + \cos 4\theta + \sin 6\theta)$

Ans. −23 $\sin 2\theta = -\dfrac{3}{4}$

$\underset{1-2\sin^2 2\theta}{\downarrow}$ $\underset{2}{\overset{\sin 2}{\downarrow}}$

$= -\dfrac{1}{8}$

$$\int_{-\pi/4}^{\pi/4} \dfrac{dx}{(1+e^{x\cos x})(\sin^4 x + \cos^4 x)}$$

Ans. $\dfrac{\pi}{2\sqrt{2}}$

If α, β are roots of $x^2 + (20)^{\frac{1}{4}}x + \sqrt{5} = 0$ Find $\alpha^8 + \beta^8$.

Ans.　50

$A = \begin{bmatrix} 1 & 2 \\ -4 & 1 \end{bmatrix}$; $A^{-1} = \alpha I + \beta A$. Find $\alpha + \beta$.

Ans.　$\dfrac{1}{9}$