

# Sample Test School of Engineering

## Chemistry

Trend of boiling point of halogens from fluorine to iodine is that it:

- A) Decrease B) is negligible C) increases D) Remains constant

Max Planck proposed quantum theory

- A) 1800 B) 1900 C) 2000 D) 1860

The shape of H<sub>2</sub>O molecules is

- A) angular B) pyramidal C) tetrahedral D) linear

Ring test is given by ions

- A) nitrides B) nitrates C) cyanates D) nitriles

Oxidation of ter-alcohol gives

- A) aldehyde B) formaldehyde C) ketone D) alkenes

## Physics

Acceleration of 1.5m/s<sup>2</sup> expressed in km hr<sup>-2</sup> is

- A) 324 B) 5.4 C) 5400 D) 19440

The efficiency of practical heat engine

- A) Can be 100% B) Cannot be 100% C) is always zero D) none of these

Conversion of A.C into D.C is called

- A) Rectification B) Amplification C) Electric Induction D) Magnetic Induction

The temperature or core of the Sun is

- A) 100°C B) 373 K C) 20 million °C D) 50 million °C

The solids are classified as

- A) Metals B) Crystalline C) Amorphous D) All except A

## Mathematics

{1,2,3,4,...} and  $\{1, \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \dots\}$  are

- A) equal B) additive inverse C) equivalent sets D) proper subset

The  $\sin\theta = \frac{12}{13}$  and  $\sin\theta > 0$  then  $\tan\theta =$

- A)  $\frac{2}{5}$  B)  $-\frac{12}{13}$  C)  $\frac{13}{5}$  D)  $\frac{12}{5}$

If  $Y = x^2$  then  $\frac{dy}{dx}$  equals

- A) 2x B)  $x\sqrt{2}$  C)  $2x^3$  D)  $x^3\sqrt{2}$

If  $x^3=y^2$ ,  $dy/dx$

- A)  $1/2 \cdot y/x$    B)  $-2/3 \cdot y/x$    C)  $3/2 \cdot y/x$    D)  $3/2 \cdot x^2/y$

$\int e^x dx$  is equal to

- A)  $\ln x$    B)  $1/e^x$    C)  $e^x$    D)  $\ln e^x$

The value of  $\int_{-2}^3 e - x^2 dx$

- A) 5   B) 4   C) 3   D) e

The order of the differential equation  $xy'dx=1+y$  is

- A) 2   B) 1   C) none   D) 3

Circles  $x^2+y^2-2x-4y=0$  and  $x^2+y^2-8y-4=0$

- A) touch externally   B) ) intersect   C) ) don't intersect   D) ) don't touch

## English

A lively joke is a \_\_\_\_\_ expression for the movement.

- A) Apt   B) Befitting   C) Proper   D) Correct

The courtiers had to swear \_\_\_\_\_ to the new King.

- A) Allegiance   B) Obedience   C) Loyalty   D) Faithfulness

The tiger ran \_\_\_\_\_ the deer.

- A) in   B) for   C) on   D) at

Metro bus has arrived \_\_\_\_\_ the station.

- A) in   B) on   C) at   D) over

Switzerland has no mineral resources to speak \_\_\_\_\_

- A) of   B) in   C) on   D) with