

Q.1 The number of σ and π bonds in 2-formylbenzoic acid are respectively

- Ans
- 1. 10,3
 - 2. 14,3
 - 3. 12,5
 - 4. 17,5

Question Type : MCQ
Question ID : 588552804
Option 1 ID : 5885523216
Option 2 ID : 5885523214
Option 3 ID : 5885523215
Option 4 ID : 5885523213
Status : Answered
Chosen Option : 4

Q.2 The volume of 1 mole of any pure gas at standard temperature and pressure is always equal to

- Ans
- 1. 0.022414 m³
 - 2. 22.414 m³
 - 3. 2.2414 m³
 - 4. 0.22414 m³

Question Type : MCQ
Question ID : 588552831
Option 1 ID : 5885523323
Option 2 ID : 5885523324
Option 3 ID : 5885523322
Option 4 ID : 5885523321
Status : Answered
Chosen Option : 1

Q.3 Veronal is used as a/an

- Ans
- 1. analgesic
 - 2. antihistamine
 - 3. antibiotic
 - 4. tranquilizer

Question Type : MCQ
Question ID : 588552839
Option 1 ID : 5885523353
Option 2 ID : 5885523356
Option 3 ID : 5885523354
Option 4 ID : 5885523355
Status : Answered
Chosen Option : 4

Q.4 Which of the following is also called as nitrogen sesquioxide ?

- Ans
- 1. NO₂
 - 2. N₂O₃
 - 3. N₂O₄

4. N_2O_5

Question Type : MCQ

Question ID : 588552818

Option 1 ID : 5885523270

Option 2 ID : 5885523269

Option 3 ID : 5885523271

Option 4 ID : 5885523272

Status : Marked For Review

Chosen Option : 2

Q.5 The oxidation number of sulphur in S_8 molecule is

Ans 1. 6

2. 0

3. 2

4. 3

Question Type : MCQ

Question ID : 588552827

Option 1 ID : 5885523308

Option 2 ID : 5885523305

Option 3 ID : 5885523306

Option 4 ID : 5885523307

Status : Answered

Chosen Option : 2

Q.6 Which among the following is a set of nucleophiles ?

Ans 1. H^+ , NH_3 , Cl^-

2. BF_3 , H_2O , NH_3

3. $AlCl_3$, BF_3 , NH_3

4. CN^- , H_2O , $R-OH$

Question Type : MCQ

Question ID : 588552833

Option 1 ID : 5885523332

Option 2 ID : 5885523329

Option 3 ID : 5885523330

Option 4 ID : 5885523331

Status : Answered

Chosen Option : 4

Q.7 Which of the following acts as oxidising agent in hydrogen - oxygen fuel cell ?

Ans 1. H_2

2. O_2

3. KOH

4. C

Question Type : MCQ

Question ID : 588552810

Option 1 ID : 5885523238

Option 2 ID : 5885523237

Option 3 ID : 5885523240

Option 4 ID : 5885523239
Status : Answered
Chosen Option : 2

Q.8 In ozone molecule , the formal charge on the central oxygen atom is

- Ans
- 1. -1
 - 2. +2
 - 3. 0
 - 4. +1

Question Type : MCQ
Question ID : 588552837
Option 1 ID : 5885523345
Option 2 ID : 5885523348
Option 3 ID : 5885523346
Option 4 ID : 5885523347
Status : Answered
Chosen Option : 4

Q.9 According to Werners theory , the geometry of the complex is determined by

- Ans
- 1. only from the primary valence in space
 - 2. number and position of the primary valences in space
 - 3. number and position of the secondary valences in space
 - 4. only from the position of secondary valence in space

Question Type : MCQ
Question ID : 588552815
Option 1 ID : 5885523259
Option 2 ID : 5885523258
Option 3 ID : 5885523257
Option 4 ID : 5885523260
Status : Answered
Chosen Option : 3

Q.1 How many total constituent particles are present in simple cubic unit cell ?

- 0
- Ans
- 1. 1
 - 2. 3
 - 3. 4
 - 4. 2

Question Type : MCQ
Question ID : 588552847
Option 1 ID : 5885523385
Option 2 ID : 5885523387
Option 3 ID : 5885523388
Option 4 ID : 5885523386
Status : Answered
Chosen Option : 1

Q.1 The correct representation of Nernst's equation for half-cell reaction $\text{Cu}^{2+}_{(\text{aq})} + \text{e}^- \rightarrow \text{Cu}_{(\text{aq})}$ is

1
Ans

$$1. E^0_{\text{Cu}^+, \text{Cu}^{2+}} = E_{\text{Cu}^+, \text{Cu}^{2+}} - \frac{0.0592}{2} \text{Log} \frac{[\text{Cu}^+]}{[\text{Cu}^{2+}]}$$

$$2. E_{\text{Cu}^+, \text{Cu}^{2+}} = E^0_{\text{Cu}^+, \text{Cu}^{2+}} - \frac{0.0592}{1} \text{Log} \frac{[\text{Cu}^+]}{[\text{Cu}^{2+}]}$$

$$3. E^0_{\text{Cu}^+, \text{Cu}^{2+}} = E_{\text{Cu}^+, \text{Cu}^{2+}} + \frac{0.0592}{2} \text{Log} \frac{[\text{Cu}^+]}{[\text{Cu}^{2+}]}$$

$$4. E_{\text{Cu}^+, \text{Cu}^{2+}} = E^0_{\text{Cu}^+, \text{Cu}^{2+}} - \frac{0.0592}{1} \text{Log} \frac{[\text{Cu}^+]}{[\text{Cu}^{2+}]}$$

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Question Type : MCQ

Question ID : 588552807

Option 1 ID : 5885523225

Option 2 ID : 5885523228

Option 3 ID : 5885523226

Option 4 ID : 5885523227

Status : Answered

Chosen Option : 4

Q.1 Which among the following is a neutral complex ?

2

- Ans
- 1. $[\text{Fe}(\text{H}_2\text{O})_6]\text{Cl}_3$
 - 2. $[\text{Ni}(\text{NH}_3)_6]\text{Cl}_2$
 - 3. $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2]$
 - 4. $\text{K}[\text{Ag}(\text{CN})_2]$

Question Type : MCQ

Question ID : 588552823

Option 1 ID : 5885523292

Option 2 ID : 5885523291

Option 3 ID : 5885523289

Option 4 ID : 5885523290

Status : Answered

Chosen Option : 3

Q.1 Identify the equation in which change in enthalpy is equal to change in internal energy

3

- Ans
- 1. $2\text{H}_2\text{O}_2(\text{l}) \rightarrow 2\text{H}_2\text{O}(\text{l}) + \text{O}_2(\text{g})$
 - 2. $\text{C}(\text{s}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g})$
 - 3. $\text{PCl}_5(\text{g}) \rightarrow \text{PCl}_3(\text{g}) + \text{Cl}_2(\text{g})$
 - 4. $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$

Question Type : MCQ

Question ID : 588552836

Option 1 ID : 5885523342

Option 2 ID : 5885523341

Option 3 ID : 5885523343

Option 4 ID : 5885523344

Status : Answered

Chosen Option : 2

Q.1 Limestone is used as a flux in the extraction of

4

Ans 1. iron

2. aluminium

3. zinc

4. copper

Question Type : MCQ

Question ID : 588552816

Option 1 ID : 5885523263

Option 2 ID : 5885523262

Option 3 ID : 5885523264

Option 4 ID : 5885523261

Status : Marked For Review

Chosen Option : 1

Q.1 Which among the following does not form polyhalide ion ?

5

Ans 1. Chlorine

2. Bromine

3. Iodine

4. Fluorine

Question Type : MCQ

Question ID : 588552811

Option 1 ID : 5885523241

Option 2 ID : 5885523243

Option 3 ID : 5885523244

Option 4 ID : 5885523242

Status : Answered

Chosen Option : 4

Q.1 How many isomers are possible for an alkane having molecular formula C_5H_{12} ?

6

Ans 1. 5

2. 3

3. 4

4. 2

Question Type : MCQ

Question ID : 588552801

Option 1 ID : 5885523204

Option 2 ID : 5885523202

Option 3 ID : 5885523203

Option 4 ID : 5885523201
Status : Marked For Review
Chosen Option : 2

Q.1 Which of following elements does not form amide when reacted with ammonia ?

7

- Ans 1. Li
 2. Na
 3. K
 4. Rb

Question Type : MCQ
Question ID : 588552845
Option 1 ID : 5885523380
Option 2 ID : 5885523379
Option 3 ID : 5885523378
Option 4 ID : 5885523377
Status : Marked For Review
Chosen Option : 1

Q.1 Two moles of an ideal gas is expanded isothermally and reversibly at 300 K from 1L to 10 L .

8 The enthalpy change in kJ is

- Ans 1. 11.4 kJ
 2. 4.8 kJ
 3. -11.4 kJ
 4. Zero kJ

Question Type : MCQ
Question ID : 588552832
Option 1 ID : 5885523327
Option 2 ID : 5885523326
Option 3 ID : 5885523328
Option 4 ID : 5885523325
Status : Answered
Chosen Option : 4

Q.1 α -Chlorosodium acetate on boiling with aqueous sodium nitrite gives

9

- Ans 1. nitromethane
 2. α -chloronitromethane
 3. nitroethane
 4. acetyl chloride

Question Type : MCQ
Question ID : 588552829
Option 1 ID : 5885523313
Option 2 ID : 5885523316
Option 3 ID : 5885523314
Option 4 ID : 5885523315
Status : Answered
Chosen Option : 1

Q.2 The bond angle H-O-O in H_2O_2 in gaseous phase is

0

- Ans 1. 90.2^0
 2. 111.5^0
 3. 101.9^0
 4. 94.8^0

Question Type : MCQ
Question ID : 588552834
Option 1 ID : 5885523335
Option 2 ID : 5885523334
Option 3 ID : 5885523333
Option 4 ID : 5885523336
Status : Answered
Chosen Option : 3

Q.2 How many metameric ethers are represented by the molecular formula $C_4H_{10}O$?

1

- Ans 1. 4
 2. 3
 3. 2
 4. 5

Question Type : MCQ
Question ID : 588552814
Option 1 ID : 5885523255
Option 2 ID : 5885523254
Option 3 ID : 5885523253
Option 4 ID : 5885523256
Status : Answered
Chosen Option : 2

Q.2 The activation energy of a reaction is zero. Its rate constant at 280 K is $1.6 \times 10^{-6} S^{-1}$, the rate constant at 300 K is

2

- Ans 1. $3.2 \times 10^{-6} S^{-1}$
 2. Zero
 3. $1.6 \times 10^{-6} S^{-1}$
 4. $1.6 \times 10^{-5} S^{-1}$

Question Type : MCQ
Question ID : 588552802
Option 1 ID : 5885523208
Option 2 ID : 5885523205
Option 3 ID : 5885523206
Option 4 ID : 5885523207
Status : Answered
Chosen Option : 3

Q.2 Which of following metals occurs in native state ?

3

- Ans 1. Magnesium
 2. Platinum
 3. Potassium

4. Sodium

Question Type : MCQ

Question ID : 588552819

Option 1 ID : 5885523276

Option 2 ID : 5885523275

Option 3 ID : 5885523274

Option 4 ID : 5885523273

Status : Answered

Chosen Option : 2

Q.2 Which of the following is NOT a broadspectrum antibiotics ?

4

Ans 1. Penicillin

2. Amoxicillin

3. Chloramphenicol

4. Ampicillin

Question Type : MCQ

Question ID : 588552838

Option 1 ID : 5885523350

Option 2 ID : 5885523349

Option 3 ID : 5885523351

Option 4 ID : 5885523352

Status : Answered

Chosen Option : 1

Q.2 The oxidation state of sulphur in $H_2S_2O_7$ is

5

Ans 1. +4

2. +6

3. +5

4. +7

Question Type : MCQ

Question ID : 588552826

Option 1 ID : 5885523301

Option 2 ID : 5885523303

Option 3 ID : 5885523302

Option 4 ID : 5885523304

Status : Answered

Chosen Option : 2

Q.2 The reaction in which 2 molecules of chlorobenzene reacts with metallic sodium in presence

6 of dry ether forming diphenyl is an example of,

Ans 1. Wurtz -Fittig reaction

2. Wurtz reaction

3. Rosenmund reaction

4. Balz-Schiemann reaction

Question Type : MCQ

Question ID : 588552821

Option 1 ID : 5885523284

Option 2 ID : 5885523283
Option 3 ID : 5885523282
Option 4 ID : 5885523281
Status : Answered
Chosen Option : 1

Q.2 The percentage of unoccupied volume in simple cubic cell is

7

- Ans
- 1. 52.40 %
 - 2. 32.00 %
 - 3. 47.60 %
 - 4. 68.04 %

Question Type : MCQ
Question ID : 588552843
Option 1 ID : 5885523369
Option 2 ID : 5885523372
Option 3 ID : 5885523370
Option 4 ID : 5885523371
Status : Answered
Chosen Option : 3

Q.2 Isobutylene on hydroboration followed by oxidation with hydrogen peroxide in presence of
8 base yields

- Ans
- 1. n-butyl alcohol
 - 2. sec-butyl alcohol
 - 3. tert-butyl alcohol
 - 4. isobutyl alcohol

Question Type : MCQ
Question ID : 588552817
Option 1 ID : 5885523265
Option 2 ID : 5885523267
Option 3 ID : 5885523268
Option 4 ID : 5885523266
Status : Answered
Chosen Option : 4

Q.2 What is the density of water vapour at boiling point of water ?

9

- Ans
- 1. $1 \times 10^{-4} \text{ g cm}^{-3}$
 - 2. 1 g cm^{-3}
 - 3. $6 \times 10^{-4} \text{ g cm}^{-3}$
 - 4. $4 \times 10^{-4} \text{ g cm}^{-3}$

Question Type : MCQ
Question ID : 588552835
Option 1 ID : 5885523338
Option 2 ID : 5885523337
Option 3 ID : 5885523339
Option 4 ID : 5885523340
Status : Answered
Chosen Option : 3

Q.3 Which of the following molecules form a zwitter ion ?

0

- Ans
- 1. $\text{CH}_3\text{COOCH}_3$
 - 2. $\text{H}_2\text{NCH}_2\text{COOH}$
 - 3. $\text{CH}_3\text{COC}_2\text{H}_5$
 - 4. $\text{CH}_3\text{CH}_2\text{COOH}$

Question Type : MCQ

Question ID : 588552842

Option 1 ID : 5885523365

Option 2 ID : 5885523367

Option 3 ID : 5885523366

Option 4 ID : 5885523368

Status : Answered

Chosen Option : 2

Q.3 Which reaction is useful in exchange of halogen in alkyl chloride by iodide ?

1

- Ans
- 1. Wurtz reaction
 - 2. Finkelstein reaction
 - 3. Reimer-Tiemann reaction
 - 4. Williamson synthesis

Question Type : MCQ

Question ID : 588552812

Option 1 ID : 5885523245

Option 2 ID : 5885523248

Option 3 ID : 5885523246

Option 4 ID : 5885523247

Status : Answered

Chosen Option : 2

Q.3 Propene when treated with cold conc. H_2SO_4 forms a compound which on heating with water

2 gives

- Ans
- 1. propan-2-ol
 - 2. butan-1-ol
 - 3. ethanol
 - 4. propan-1-ol

Question Type : MCQ

Question ID : 588552813

Option 1 ID : 5885523251

Option 2 ID : 5885523252

Option 3 ID : 5885523249

Option 4 ID : 5885523250

Status : Answered

Chosen Option : 1

Q.3 Identify the amine formed when ethyltrimethyl ammonium iodide is treated with silver hydroxide and further heated strongly

3

- Ans
- 1. $\text{C}_2\text{H}_5\text{N}(\text{CH}_3)_2$
 - 2. $\text{C}_2\text{H}_5\text{NH}_2$

3. $(\text{CH}_3)_3\text{N}$

4. CH_3NH_2

Question Type : MCQ

Question ID : 588552803

Option 1 ID : 5885523211

Option 2 ID : 5885523209

Option 3 ID : 5885523212

Option 4 ID : 5885523210

Status : Answered

Chosen Option : 3

Q.3 For a chemical reaction rate law is, $\text{rate} = k[\text{A}]^2[\text{B}]$. If $[\text{A}]$ is doubled at constant $[\text{B}]$, the rate of reaction

Ans 1. increases by a factor of 8

2. increases by a factor of 4

3. increases by a factor of 3

4. increases by a factor of 2

Question Type : MCQ

Question ID : 588552809

Option 1 ID : 5885523236

Option 2 ID : 5885523235

Option 3 ID : 5885523234

Option 4 ID : 5885523233

Status : Answered

Chosen Option : 2

Q.3 Which of the following is a natural polymer ?

5

Ans 1. Nylon

2. Teflon

3. Linen

4. Orlon

Question Type : MCQ

Question ID : 588552849

Option 1 ID : 5885523393

Option 2 ID : 5885523395

Option 3 ID : 5885523396

Option 4 ID : 5885523394

Status : Answered

Chosen Option : 3

Q.3 The monomers used in the preparation of dextran are

6

Ans 1. glycine and ω - amino caproic acid

2. 3- Hydroxybutanoic acid and 3-hydroxy pentanoic acid

3. glycine and lactic acid

4. lactic acid and glycollic acid

Question Type : MCQ

Question ID : 588552848

Option 1 ID : 5885523392
Option 2 ID : 5885523389
Option 3 ID : 5885523390
Option 4 ID : 5885523391
Status : Answered
Chosen Option : 4

Q.3 When a mixture of manganese dioxide, potassium hydroxide and potassium chlorate is fused ,
7 the product obtained is

- Ans
- 1. K_2SO_4
 - 2. K_2MnO_3
 - 3. K_2MnO_4
 - 4. $KMnO_4$

Question Type : MCQ
Question ID : 588552822
Option 1 ID : 5885523285
Option 2 ID : 5885523286
Option 3 ID : 5885523287
Option 4 ID : 5885523288
Status : Answered
Chosen Option : 3

Q.3 In which oxidation state, group 15 elements act as Lewis base ?
8

- Ans
- 1. +5
 - 2. +4
 - 3. -3
 - 4. +3

Question Type : MCQ
Question ID : 588552805
Option 1 ID : 5885523220
Option 2 ID : 5885523219
Option 3 ID : 5885523218
Option 4 ID : 5885523217
Status : Answered
Chosen Option : 3

Q.3 Relationship between vant Hoff factor (i) and degree of dissociation (α) is
9

- Ans
- 1. $i = \frac{\alpha - 1}{n' - 1}$
 - 2. $i = \frac{\alpha - 1}{1 - n'}$
 - 3. $\alpha = \frac{1 - i}{n' - 1}$

✓ 4. $\alpha = \frac{i - 1}{n' - 1}$

Question Type : MCQ

Question ID : 588552841

Option 1 ID : 5885523363

Option 2 ID : 5885523361

Option 3 ID : 5885523362

Option 4 ID : 5885523364

Status : Answered

Chosen Option : 4

Q.4 Which of following elements does NOT react with hot concentrated sulphuric acid ?

0

Ans ✗ 1. Sb

✓ 2. N

✗ 3. P

✗ 4. As

Question Type : MCQ

Question ID : 588552825

Option 1 ID : 5885523299

Option 2 ID : 5885523300

Option 3 ID : 5885523297

Option 4 ID : 5885523298

Status : Answered

Chosen Option : 1

Q.4

1

In the reaction, $\text{H}_2\text{O}_{2(aq)} \xrightarrow{\text{I}^-_{(aq)}} \text{H}_2\text{O}_{(l)} + \frac{1}{2} \text{O}_{2(g)}$ iodide ion acts as

Ans ✓ 1. homogenous catalyst

✗ 2. acid catalyst

✗ 3. Heterogenous catalyst

✗ 4. enzyme catalyst

Question Type : MCQ

Question ID : 588552830

Option 1 ID : 5885523318

Option 2 ID : 5885523320

Option 3 ID : 5885523317

Option 4 ID : 5885523319

Status : Answered

Chosen Option : 3

Q.4 The ionic charges of manganate and permanganate ion are respectively

2

- Ans 1. -2, -2
 2. -1, -2
 3. -2, -1
 4. -1, -1

Question Type : MCQ
Question ID : 588552850
Option 1 ID : 5885523397
Option 2 ID : 5885523398
Option 3 ID : 5885523399
Option 4 ID : 5885523400
Status : Answered
Chosen Option : 3

Q.4 How many gram of sodium (atomic mass 23 u) is required to prepare one mole of ethane from 3 methyl chloride by wurtz reaction ?

- Ans 1. 2
 2. 23
 3. 11.5
 4. 46

Question Type : MCQ
Question ID : 588552828
Option 1 ID : 5885523312
Option 2 ID : 5885523309
Option 3 ID : 5885523310
Option 4 ID : 5885523311
Status : Answered
Chosen Option : 4

Q.4 The enzyme which converts maltose to glucose is 4

- Ans 1. maltase
 2. insulin
 3. lysine
 4. zymase

Question Type : MCQ
Question ID : 588552844
Option 1 ID : 5885523373
Option 2 ID : 5885523374
Option 3 ID : 5885523376
Option 4 ID : 5885523375
Status : Answered
Chosen Option : 1

Q.4
5 If $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)}$ $\Delta H = -X$, $CO_{(g)} + \frac{1}{2} O_{2(g)} \rightarrow CO_{2(g)}$ $\Delta H = -Y$, Calculate $\Delta_f H$ for $CO_{(g)}$ formation

- Ans 1. -Y-X
 2. Y-X

3. X+Y

4. X-Y

Question Type : MCQ

Question ID : 588552820

Option 1 ID : 5885523280

Option 2 ID : 5885523278

Option 3 ID : 5885523279

Option 4 ID : 5885523277

Status : Answered

Chosen Option : 2

Q.4 What is the atomicity of aluminium phosphate ?

6

Ans 1. 8

2. 6

3. 5

4. 13

Question Type : MCQ

Question ID : 588552824

Option 1 ID : 5885523293

Option 2 ID : 5885523295

Option 3 ID : 5885523294

Option 4 ID : 5885523296

Status : Answered

Chosen Option : 2

Q.4 Which among the following compounds is obtained when ethanenitrile is acid hydrolysed?

7

Ans 1. Formic acid

2. Acetamide

3. Formamide

4. Acetic acid

Question Type : MCQ

Question ID : 588552806

Option 1 ID : 5885523221

Option 2 ID : 5885523224

Option 3 ID : 5885523222

Option 4 ID : 5885523223

Status : Answered

Chosen Option : 4

Q.4 Standard Hydrogen electrode (SHE) is a

8

Ans 1. Primary reference electrode

2. Secondary reference electrode

3. Metal - Sparingly soluble salt electrode

4. Metal - Metal ion electrode

Question Type : MCQ

Question ID : 588552808

Option 1 ID : 5885523230
Option 2 ID : 5885523229
Option 3 ID : 5885523231
Option 4 ID : 5885523232
Status : Answered
Chosen Option : 1

Q.4 9 gram anhydrous oxalic acid (Mol. Wt = 90) was dissolved in 9.9 moles of water. If vapour pressure of pure water is P_1^0 , the vapour pressure of solution is

- Ans 1. $0.99 P_1^0$
 2. $0.1 P_1^0$
 3. $0.90 P_1^0$
 4. $1.1 P_1^0$

Question Type : MCQ
Question ID : 588552840
Option 1 ID : 5885523357
Option 2 ID : 5885523359
Option 3 ID : 5885523358
Option 4 ID : 5885523360
Status : Answered
Chosen Option : 1

Q.5 Which of the following sets of solutions of urea (mol. mass. 60 g mol^{-1}) and sucrose (mol. mass. 342 g mol^{-1}) is isotonic ?

- Ans 1. 9.1 gL^{-1} urea and 6.0 gL^{-1} sucrose
 2. 3.0 gL^{-1} urea and 3.0 gL^{-1} sucrose
 3. 6.0 gL^{-1} urea and 9.0 gL^{-1} sucrose
 4. 3.0 gL^{-1} urea and 17.1 gL^{-1} sucrose

Question Type : MCQ
Question ID : 588552846
Option 1 ID : 5885523384
Option 2 ID : 5885523381
Option 3 ID : 5885523382
Option 4 ID : 5885523383
Status : Answered
Chosen Option : 4

Section : Mathematics

Q.1 In a binomial distribution, mean is 18 and variance is 12 then $p = \dots\dots$

Ans

1. $\frac{2}{3}$