Question Paper Name:	Chemistry 227 30th May 2019 Shift2 Set1
Subject Name:	Chemistry 227
Creation Date:	2019-05-30 19:01:14
Duration:	180
Total Marks:	100
Display Marks:	Yes
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

Chemistry 227

Group Number :	1
Group Id :	128206216
Group Maximum Duration :	0
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	100

Part - A

Section Id :	128206562
Section Number :	1
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	20
Number of Questions to be attempted:	20
Section Marks:	40
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206595
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 12820612708 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

ophilic substitution reaction of an alkyl halide is carried out with an azide in a polar protic (MeOH) as well as in a polar aprotic (DMF) solvent. The reaction is:

(a) Drastically Slower in MeOH

(b) Very Fast in MeOH

(c) Rates are same in MeOH and DMF

(d) Reaction does not proceed in DMF

Options :

12820650171. A

12820650172. B

12820650173. C

12820650174. D

Question Number : 2 Question Id : 12820612709 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

p-Chloromethylbenzene is reacted with $NaNH_2$ in liquid ammonia. The product(s) formed are:

(a) *p*-Aminomethylbenzene only

(b) *m*-Aminomethylbenzene only

(c) *o*-Aminomethylbenzene and *m*-aminomethylbenzene (major)

(d) *m*-Aminomethylbenzene (major) and *p*-aminomethylbenzene

Options :

12820650175. A

12820650176. B

12820650177. C

12820650178. D

Question Number : 3 Question Id : 12820612710 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Arrange the decreasing order of acidity of phenol (**I**), *o*-nitrophenol (**II**), *m*-nitrophenol (**III**) and *p*-nitrophenol (**IV**):

(a) IV > III > II > I

(b) II > IV > III > I

(c) IV > II > III > I

(d) III > II > IV > I

Options :

12820650179. A

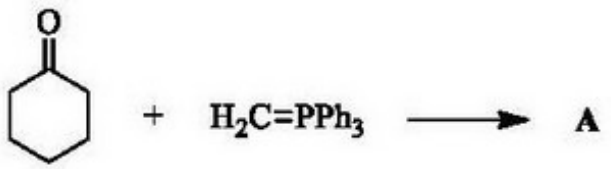
12820650180. B

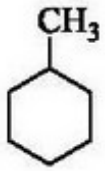
12820650181. C

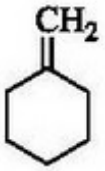
12820650182. D

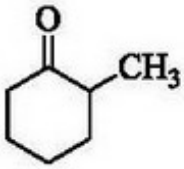
Correct Marks : 2 Wrong Marks : 0

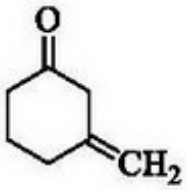
The product A of the following reaction is:



(a) 

(b) 

(c) 

(d) 

Options :

12820650183. A

12820650184. B

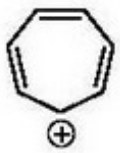
12820650185. C

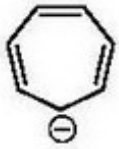
12820650186. D

Question Number : 5 Question Id : 12820612712 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

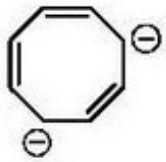
Correct Marks : 2 Wrong Marks : 0

The compound that is not aromatic is:

(a) 

(b) 

(c) 

(d) 

Options :

12820650187. A

12820650188. B

12820650189. C

12820650190. D

Question Number : 6 Question Id : 12820612713 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

aturated carbonyl compounds undergo a ring closure reaction with conjugated dienes. This reaction is known as:

(a) Perkin reaction

(b) Sandmeyer reaction

(c) Wittig reaction

(d) Diels-Alder reaction

Options :

12820650191. A

12820650192. B

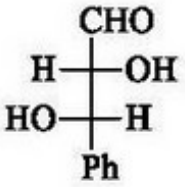
12820650193. C

12820650194. D

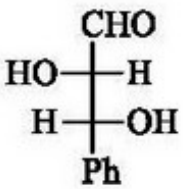
Question Number : 7 Question Id : 12820612714 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Consider the statements on following pair of compounds:



(P)



(Q)

I. Both are enantiomers

II. Both are threo form

III. Both are diastereomers

IV. Both are D,L-pair

The CORRECT set of statements is:

(a) I and II

(b) II and III

(c) I, II and IV

(d) III and IV

Options :

12820650195. A

12820650196. B

12820650197. C

12820650198. D

Question Number : 8 Question Id : 12820612715 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

est diameter among the following anions is:

(a) F^-

(b) Cl^-

(c) Br^-

(d) H^-

Options :

12820650199. A

12820650200. B

12820650201. C

12820650202. D

Question Number : 9 Question Id : 12820612716 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The quantitative estimation of calcium is generally performed by:

(a) Redox titration

(b) Acid-base titration

(c) Complexometric titration

(d) Precipitation titration

Options :

12820650203. A

12820650204. B

12820650205. C

12820650206. D

Question Number : 10 Question Id : 12820612717 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The number of electrons involved in the following balanced redox reaction is:

$2MnO_4^-(aq) + 10Br^-(aq) + 16H^+(aq) \rightarrow 2Mn^{2+}(aq) + 5Br_2(aq) + 8H_2O(l)$

(a) 2

(b) 4

(c) 5

(d) 10

Options :

12820650207. A

12820650208. B

12820650209. C

12820650210. D

Question Number : 11 Question Id : 12820612718 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

In oxy-hemoglobin, the iron centre is best described as:

(a) High-spin Fe(III)

(b) High-spin Fe(II)

(c) Low-spin Fe(III)

(d) Low-spin Fe(II)

Options :

12820650211. A

12820650212. B

12820650213. C

12820650214. D

Question Number : 12 Question Id : 12820612719 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In metal-olefin interaction, the extent of increase in metal → olefin π-back-donation would

(a) Lead to a decrease in C=C bond length

(b) Change the formal oxidation state of the metal

(c) Change the hybridization of the olefin carbon from sp^2 to sp^3

(d) Increase with the presence of electron donating substituents on the olefin

Options :

12820650215. A

12820650216. B

12820650217. C

12820650218. D

Question Number : 13 Question Id : 12820612720 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The d-d transition in an octahedral $[NiX_6]^{2+}$ complexes are:

(a) Laporte forbidden but spin allowed

(b) Laporte forbidden and spin forbidden

(c) Laporte allowed and spin allowed

(d) Laporte allowed but spin forbidden

Options :

12820650219. A

12820650220. B

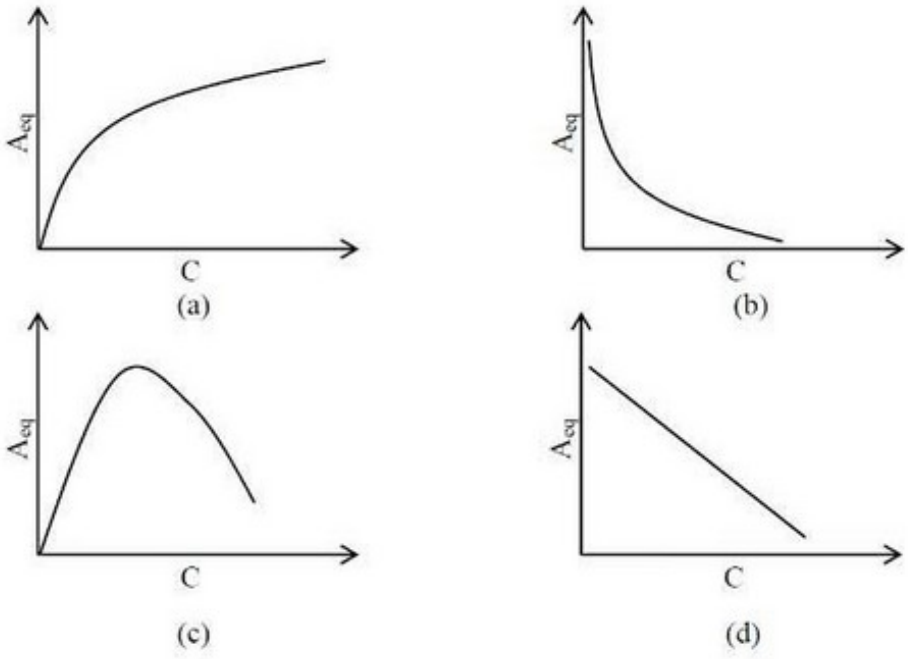
12820650221. C

12820650222. D

Question Number : 14 Question Id : 12820612721 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Marks : 2 Wrong Marks : 0

The variation of equivalent conductance with concentration of a strong electrolyte is best shown by



Options :

12820650223. A

12820650224. B

12820650225. C

12820650226. D

Question Number : 15 Question Id : 12820612722 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The concept of de Broglie's particle-wave is best utilized in the following modern instrument:

(a) X-ray diffractometer

(b) UV-Vis Spectrophotometer

(c) Transmission electron microscope

(d) Photo voltaic cells

Options :

12820650227. A

12820650228. B

12820650229. C

12820650230. D

Question Number : 16 Question Id : 12820612723 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

temperature chemical adsorption occurs?

(a) At low temperature

(b) At very low temperature

(c) At high temperature

(d) Temperature doses not affect

Options :

12820650231. A

12820650232. B

12820650233. C

12820650234. D

Question Number : 17 Question Id : 12820612724 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A solid has a structure in which 'W' atoms are located at the corners of a cubic lattice, 'O' atoms are at the centre of face edges and 'Na' atoms are at the centre of the cube. The formula of the compound is:

(a) Na_2WO_3

(b) Na_2WO_2

(c) $NaWO_2$

(d) $NaWO_3$

Options :

12820650235. A

12820650236. B

12820650237. C

12820650238. D

Question Number : 18 Question Id : 12820612725 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For which process would the heat be negative?

(a) Changing the temperature of ice water to 50 °C

(b) Condensing steam

(c) Boiling water

(d) Changing the temperature of water from 30 °C to 100 °C

Options :

12820650239. A

12820650240. B

12820650241. C

12820650242. D

Correct Marks : 2 Wrong Marks : 0

What are the units of k for the rate law: Rate = k[A], when the concentration unit is mol/L?

(a) s^{-1}

(b) s

(c) L mol^{-1} s^{-1}

(d) L^2 mol^{-2} s^{-1}

Options :

12820650243. A

12820650244. B

12820650245. C

12820650246. D

Question Number : 20 Question Id : 12820612727 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the reduction potential for the following half-reaction at 25 °C?

$Al^{3+} + 3e^- \rightarrow Al$

Given that $[Al^{3+}] = 0.10$ M and $E^\circ = -1.66$ V

(a) −1.84 V

(b) −1.60 V

(c) −1.68 V

(d) −1.66 V

Options :

12820650247. A

12820650248. B

12820650249. C

12820650250. D

Part - B

Section Id :	128206363
Section Number :	2
Section type :	Online
Mandatory or Optional:	Mandatory
Number of Questions:	20
Number of Questions to be attempted:	20
Section Marks:	60
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206596

Question Number : 21 Question Id : 12820612728 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The decreasing order of nucleophilicity for the following anions is:

$CH_3CO_2^-$, CH_3O^-, $C_6H_5O^-$, NO_3^-

(a) $CH_3CO_2^- > CH_3O^- > C_6H_5O^- > NO_3^-$

(b) $CH_3O^- > NO_3^- > C_6H_5O^- > CH_3CO_2^-$

(c) $CH_3O^- > C_6H_5O^- > CH_3CO_2^- > NO_3^-$

(d) $C_6H_5O^- > CH_3O^- > NO_3^- > CH_3CO_2^-$

Options :

12820650251. A

12820650252. B

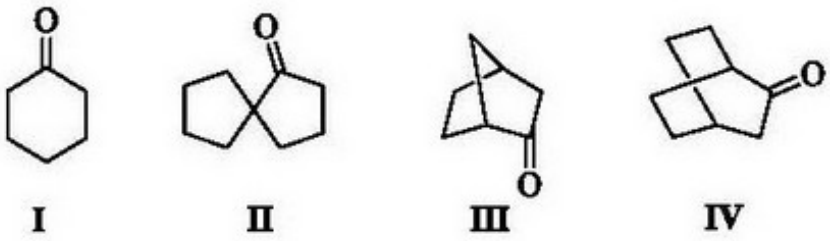
12820650253. C

12820650254. D

Question Number : 22 Question Id : 12820612729 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

Which of the following compounds is optically active?



I II III IV

(a) I

(b) II

(c) III

(d) IV

Options :

12820650255. A

12820650256. B

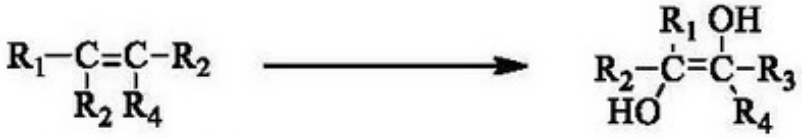
12820650257. C

12820650258. D

Question Number : 23 Question Id : 12820612730 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

the reagent system for the following conversion:



(a) OsO_4; $LiAlH_4$

(b) $C_6H_5CO_3H$; H_2O/H^+

(c) OsO_4; Aq.-alc. $Na_2S_2O_3$/Reflux

(d) $Pb(OAc)_4$; H_2O

Options :

12820650259. A

12820650260. B

12820650261. C

12820650262. D

Question Number : 24 Question Id : 12820612731 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

Which set of values belongs to the following structure:

$C_6H_5CH_2CH(CH_3)_2$

(a) C_8H_{10}; 1.2, t, three H's; 2.6 q, two H's; 7.1, s, five H's

(b) $C_{10}H_{14}$; 1.30, s, nine H's; 7.30, s, five H's

(c) $C_{10}H_{14}$; 0.88, d, six H's; 1.86, m, one H; 2.45, d, two H's; 7.2, s, five H's

(d) C_9H_{10}; 2.04, p, two H's; 2.91 t, four H's; 7.17, s, five H's

Options :

12820650263. A

12820650264. B

12820650265. C

12820650266. D

Question Number : 25 Question Id : 12820612732 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

A red compound is formed by reaction of 2 moles of $AgBF_4$ with 1 mole of 1,2,3,4-tetraphenyl-3,4-dibromocyclobut-l-ene. The product is [A] and is:

(a) [A]: Tetraphenylcyclobutenyl dication and is aromatic

(b) [A]: Tetraphenylcyclobutenyl dianion and is aromatic

(c) [A]: Triphenylcyclopropenyl cation and is aromatic

(d) [A]: Triphenylcyclopropenyl anion and is antiaromatic

Options :

12820650267. A

12820650268. B

12820650269. C
12820650270. D

Question Number : 26 Question Id : 12820612733 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

Cyclohexanone is treated with hydroxylamine to produce [A]. Upon treatment of [A] with an acid [B] is produced. [B] is then heated in presence of a base to generate a textile polymer [C]. [A], [B] and [C] are:

(a) [A]: Cyclohexanoic acid; [B]: Six membered cyclic acid; [C]: $[-(CH_2)_5-CO-]_n$

(b) [A]: Cyclohexanone oxime; [B]: Six membered cyclic amide; [C]: $[-NH-(CH_2)_4-CO-]_n$

(c) [A]: Cyclohexanone oxime; [B]: Seven membered cyclic amide; [C]: $[-NH-(CH_2)_5-CO-]_n$

(d) [A]: Cyclohexanoic acid; [B]: Six membered cyclic acid; [C]: $[-NH-(CH_2)_5-CO-]_n$

Options :
12820650271. A
12820650272. B
12820650273. C
12820650274. D

Question Number : 27 Question Id : 12820612734 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

According to Valence Shell Electron Pair Repulsion (VSEPR) theory, the shape of $SnCl_2$, XeF_2, NH_3 and BrF_3 are:

(a) V-shaped, linear, T-shaped, and pyramidal, respectively.

(b) Linear, V-shaped, T-shaped, and pyramidal, respectively.

(c) Pyramidal, linear, T-shaped, and V-shaped, respectively.

(d) V-shaped, linear, pyramidal, and T-shaped, respectively.

Options :
12820650275. A
12820650276. B
12820650277. C
12820650278. D

Question Number : 28 Question Id : 12820612735 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

For the following reactions:

(I) $Cu^{2+} + 2H^{+} + SO_4^{2-} + S^{2-} \rightarrow M + N$

(II) $BF_3 + BH_3 + Et_2O + Me_2S \rightarrow O + P$

Choose the **CORRECT** set of products from the above reactions using Hard-Soft Acid-Base (HSAB) principle:

(a) **M** = CuS, **N** = H_2SO_4; **O** = $Et_2O{:}BF_3$, **P** = $Me_2S{:}BH_3$

(b) **M** = CuS, **N** = H_2SO_4; **O** = $Et_2O{:}BH_3$, **P** = $Me_2S{:}BF_3$

(c) **M** = $CuSO_4$, **N** = H_2S; **O** = $Et_2O{:}BF_3$, **P** = $Me_2S{:}BH_3$

(d) **M** = $CuSO_4$, **N** = H_2S; **O** = $Et_2O{:}BH_3$, **P** = $Me_2S{:}BF_3$

Options :

12820650279. A

12820650280. B

12820650281. C

12820650282. D

Question Number : 29 Question Id : 12820612736 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The number of moles of CO_2 present in 220 mg CO_2 is:

(a) 0.005 moles

(b) 10 moles

(c) 100 moles

(d) 0.01 moles

Options :

12820650283. A

12820650284. B

12820650285. C

12820650286. D

Question Number : 30 Question Id : 12820612737 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

the following complexes in increasing order of ν_{C-O} stretching frequency:

I. $[Mo(CO)_3(PF_3)_3]$

II. $[Mo(CO)_3(PCl_3)_3]$

III. $[Mo(CO)_3(PMe_3)_3]$

IV. $[Mo(CO)_3(PPh_3)_3]$

(a) IV < III < II < I

(b) I < II < III < IV

(c) II < I < IV < III

(d) III < IV < II < I

Options :

12820650287. A

12820650288. B

12820650289. C

12820650290. D

Question Number : 31 Question Id : 12820612738 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The visible spectra of salts of following complexes are measured in aqueous solutions. Among these complexes which one would exhibit absorptions spectrum with the highest ε_{max} values?

(a) $[MnO_4]^-$

(b) $[CoCl_4]^{2-}$

(c) $[Co(H_2O)_6]^{2+}$

(d) $[Mn(H_2O)_6]^{2+}$

Options :

12820650291. A

12820650292. B

12820650293. C

12820650294. D

Question Number : 32 Question Id : 12820612739 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The increasing order of energy levels for the tetragonally elongated hexacoordinated system is:

(a) $dxz, dyz, dxy < dz^2, dx^2\text{-}y^2$

(b) $dxz, dyz < dxy < dz^2 < dx^2\text{-}y^2$

(c) $dxy < dxz, dyz < dx^2\text{-}y^2 < dz^2$

(d) $dxz < dyz < dxy < dz^2 < dx^2\text{-}y^2$

Options :

12820650295. A

12820650296. B
12820650297. C
12820650298. D

Question Number : 33 Question Id : 12820612740 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

Which of the following statement is **TRUE** with respect to $[Cr(edta)]^-$, $[Ru(en)_3]^{2+}$ and $[Pt(dien)Cl]^+$?

(a) Chiral, Chiral and Achiral, respectively.

(b) Chiral, Chiral and Chiral, respectively.

(c) Achiral, Chiral and Achiral, respectively.

(d) Achiral, Chiral and Chiral, respectively.

Options :
12820650299. A
12820650300. B
12820650301. C
12820650302. D

Question Number : 34 Question Id : 12820612741 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

The *eigenvalues* of the linear matrix operator $A = \begin{pmatrix} 9 & 1 \\ 5 & 3 \end{pmatrix}$ are:

(a) 9 and 3

(b) 8 and -2

(c) 4 and 8

(d) 5 and 7

Options :
12820650303. A
12820650304. B
12820650305. C
12820650306. D

Question Number : 35 Question Id : 12820612742 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

vector parallel to the resultant of vectors, $\vec{r}_1 = 7\hat{i} + \hat{k}$ and $\vec{r}_2 = -4\hat{i} + 6\hat{j} - 3\hat{k}$ is:

(a) $\frac{1}{8}(-4\hat{i} + 6\hat{j} - 3\hat{k})$

(b) $\frac{1}{2}(\hat{i} + \hat{j} + \hat{k})$

(c) $\frac{1}{2}(11\hat{i} + 6\hat{j} - 2\hat{k})$

(d) $\frac{1}{7}(3\hat{i} + 6\hat{j} - 2\hat{k})$

Options :

12820650307. A

12820650308. B

12820650309. C

12820650310. D

Question Number : 36 Question Id : 12820612743 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The half-life of a first order reaction having activation energy 45 kcal mol^{-1} at 300 °C and largest frequency constant of 1.11 x 10^{11} Hz can be calculated as:

(a) 9 x 10^{-11} s

(b) 9 x 10^{5} s

(c) 2 x 10^{9} s

(d) 2.2 x 10^{-2} s

Options :

12820650311. A

12820650312. B

12820650313. C

12820650314. D

Question Number : 37 Question Id : 12820612744 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 3 Wrong Marks : 0

The second line in Paschen series of hydrogen atom spectra appears at:

(a) $10.90 \times 10^{5}\ m^{-1}$

(b) $7.80 \times 10^{5}\ m^{-1}$

(c) $15.24 \times 10^{5}\ m^{-1}$

(a) $82.28 \times 10^{5}\ m^{-1}$

Options :

12820650315. A

12820650316. B
12820650317. C
12820650318. D

Question Number : 38 Question Id : 12820612745 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

What is the equilibrium constant for a reaction that has a value of $\Delta G^\circ = -50$ kJ at 100 °C?

(a) 1.01

(b) 7.1×10^5

(c) −5.87

(d) 9.98×10^6

Options :
12820650319. A
12820650320. B
12820650321. C
12820650322. D

Question Number : 39 Question Id : 12820612746 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

The velocity of electron inside hydrogen-atom in its first Bohr orbit can be calculated using Bohr's formula of quantization of angular momentum as:

(a) 3.00×10^8 m s^{-1}

(b) 2.19×10^6 m s^{-1}

(c) 11.58×10^6 m s^{-1}

(d) 19.90×10^8 m s^{-1}

Options :
12820650323. A
12820650324. B
12820650325. C
12820650326. D

Question Number : 40 Question Id : 12820612747 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 3 Wrong Marks : 0

s 5 mL of 1.4 M NaOH to neutralize 150 mL of HCl with an unknown concentration, what was the original concentration of the acid?

(a) 0.47 M

(b) 0.047 M

(c) 0.014 M

(d) 0.041 M

Options :

12820650327. A

12820650328. B

12820650329. C

12820650330. D