

National Testing Agency

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Nano Science Nano Technology

Group Number : 1
Group Id : 17807072
Group Maximum Duration : 0
Group Minimum Duration : 90
Show Attended Group? : No
Edit Attended Group? : No
Break time : 0
Group Marks : 300

Nano Science Nano Technology

Section Id : 17807072
Section Number : 1
Section type : Online
Mandatory or Optional : Mandatory
Number of Questions : 75
Number of Questions to be attempted : 75
Section Marks : 300
Maximum Instruction Time : 0
Sub-Section Number : 1
Sub-Section Id : 178070128
Question Shuffling Allowed : Yes

Question Number : 1 Question Id : 1780705378 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

One letter abbreviation - Q stands for the amino acid

1. Asparagine
2. Glutamic acid
3. Glycine
4. Glutamine

Options :

17807021301. 1
17807021302. 2
17807021303. 3
17807021304. 4

Question Number : 2 Question Id : 1780705379 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

In DNA molecule, the purine or pyrimidine bases attached to C-1' of the sugar by the N-glycosidic linkage, as:

1. N-1 of a purine or N-6 of a pyrimidine
2. N-9 of a purine or N-1 of a pyrimidine
3. N-7 of a purine or N-1 of a pyrimidine
4. N-9 of a purine or N-6 of a pyrimidine

Options :

17807021305. 1
17807021306. 2
17807021307. 3
17807021308. 4

Question Number : 3 Question Id : 1780705380 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Carbonic anhydrases dehydrate HCO_3^- in the blood to form CO_2 for exhalation as the blood passes through the lungs and this enzyme contains a bound ----- ion essential for catalytic activity.

1. Mg^{2+}
2. Co^{2+}
3. Zn^{2+}
4. Mn^{2+}

Options :

17807021309. 1
17807021310. 2
17807021311. 3
17807021312. 4

Question Number : 4 Question Id : 1780705381 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange the given enzymes involved in glycolysis according to their occurrence starting from glucose.

- (A) Aldolase
(B) Phosphoglucose isomerase
(C) Phosphoglycerate mutase
(D) Glyceraldehyde 3-phosphate dehydrogenase

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)
2. (A), (C), (D), (B)
3. (B), (A), (D), (C)
4. (C), (B), (D), (A)

Options :

17807021313. 1
17807021314. 2

17807021315. 3

17807021316. 4

Question Number : 5 Question Id : 1780705382 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In electron transport chain, the flow of electrons from NADH to O₂ occurs through protein complexes. Identify the correct sequence of protein complexes according to the flow from NADH to O₂.

(A) Succinate-Q reductase

(B) NADH-Q oxidoreductase

(C) Cytochrome c oxidase

(D) Q-cytochrome c oxidoreductase

Choose the **correct** answer from the options given below:

1. (A), (B), (C), (D)

2. (D), (B), (C), (A)

3. (B), (A), (D), (C)

4. (C), (B), (D), (A)

Options :

17807021317. 1

17807021318. 2

17807021319. 3

17807021320. 4

Question Number : 6 Question Id : 1780705383 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The adult hemoglobin molecule exists as an

1. $\alpha_3\beta_1$

2. $\alpha_1\beta_4$

3. $\alpha_2\beta_2$

4. $\alpha_1\beta_1\gamma_2$

Options :

17807021321. 1

17807021322. 2

17807021323. 3

17807021324. 4

Question Number : 7 Question Id : 1780705384 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the correct facts about the active transport

- (A). Active transport is mediated by transporters coupled to source of metabolic energy.
- (B). Active transport can be driven by ion-concentration gradients.
- (C). Active transport transfers the solute across the lipid bilayer by undergoing irreversible conformational changes.
- (D). In the plasma membrane of animal cells, Na^+ is the usual co-transported ion because its electrochemical gradient provides a large driving force for the active transport of a second molecule.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (A), (B), (C) and (D)
4. (B), (C) and (D) only

Options :

17807021325. 1
17807021326. 2
17807021327. 3
17807021328. 4

Question Number : 8 Question Id : 1780705385 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
Protein	Function
(A) Cap z	(I) Acts as molecular springs
(B) Myosin	(II) Binds along the groove of the actin filament helix
(C) Tropomyosin	(III) Component of thick filament
(D) Titin	(IV) Binds to actin filament at Z-disk

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
3. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021329. 1
17807021330. 2
17807021331. 3
17807021332. 4

Question Number : 9 Question Id : 1780705386 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The protein which binds to DNA in 'S' phase and maintains the linkage between sister chromatids is _____.

1. Kinesin
2. Crystallin
3. Condensin
4. Cohesin

Options :

17807021333. 1
17807021334. 2
17807021335. 3
17807021336. 4

Question Number : 10 Question Id : 1780705387 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Li-Fraumeni cancer syndrome, in which multiple cancers (of the breast, brain, bone, blood, lung, and skin) occurs at high frequency and at an early age, is caused in :

1. individuals who inherit one defective copy of *ras* oncogene
2. individuals who inherit one defective copy of *TP53* gene
3. individuals who inherit mutations in *erbB2* gene
4. individuals who have mutations in both copies of tumor suppressor gene APC (adenomatous polyposis coli)

Options :

17807021337. 1
17807021338. 2
17807021339. 3
17807021340. 4

Question Number : 11 Question Id : 1780705388 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one is not the eicosanoid hormone?

1. Prostaglandins
2. Thromboxanes
3. Ghrelin
4. Leukotrienes

Options :

17807021341. 1
17807021342. 2
17807021343. 3
17807021344. 4

Question Number : 12 Question Id : 1780705389 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following eukaryotic DNA polymerase functions in repairing of lagging strand?

1. α (alpha)
2. ϵ (epsilon)
3. γ (gamma)
4. δ (delta)

Options :

17807021345. 1
17807021346. 2
17807021347. 3
17807021348. 4

Question Number : 13 Question Id : 1780705390 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In group II introns splicing, the nucleophile is the

1. 3'-OH group of a guanosine residue
2. 2'-OH group of an adenosine residue
3. 3'-OH group of an adenosine residue
4. 2'-OH group of a guanosine residue

Options :

17807021349. 1
17807021350. 2
17807021351. 3
17807021352. 4

Question Number : 14 Question Id : 1780705391 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
DNA repair	Enzymes
(A). Mismatch repair	(I). AP endonucleases
(B) Base-excision repair	(II). DNA photolyases
(C). Nucleotide-excision repair	(III). RecJ nuclease
(D). Direct repair	(IV). ABC excinuclease

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

Options :

- 17807021353. 1
- 17807021354. 2
- 17807021355. 3
- 17807021356. 4

Question Number : 15 Question Id : 1780705392 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the correct sequence of attachment of transcription factors during eukaryotic transcription

- (A) TFIIB
- (B) TFIID
- (C) TFIIH
- (D) TFIIF

Choose the **correct** answer from the options given below:

- 1. (A), (B), (C), (D)
- 2. (D), (B), (C), (A)
- 3. (B), (A), (D), (C)
- 4. (C), (B), (D), (A)

Options :

- 17807021357. 1
- 17807021358. 2
- 17807021359. 3
- 17807021360. 4

Question Number : 16 Question Id : 1780705393 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Shingles is caused by the

- 1. Vaccinia virus
- 2. Varicella-zoster virus
- 3. Influenza virus
- 4. Human cytomegalo virus

Options :

- 17807021361. 1
- 17807021362. 2
- 17807021363. 3
- 17807021364. 4

Question Number : 17 Question Id : 1780705394 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The antigen binding region in an immunoglobulin is composed of

- (A). Constant region light chain
- (B). Variable region light chain
- (C). Constant region heavy chain
- (D). Variable region heavy chain

Choose the **correct** answer from the options given below:

1. (A), (B) and (C) only
2. (C) and (D) only
3. (B) and (D) only
4. (A) and (D) only

Options :

- 17807021365. 1
- 17807021366. 2
- 17807021367. 3
- 17807021368. 4

Question Number : 18 Question Id : 1780705395 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
Congenital Immunodeficiency Diseases	Cause
(A). Chronic granulomatous disease	(I). defective B-cell differentiation due to loss of tyrosine kinase
(B). X-linked agammaglobulinemia	(II). lack of thymus or a poorly developed thymus
(C). DiGeorge syndrome	(III). various mechanism (e.g., defective B- and T-cell maturation because of X-linked gene mutation; absence of adenosine deaminase in lymphocytes)
(D). Severe combined immunodeficiency diseases (SCID)	(IV). failure to produce reactive oxygen species due to defective NADPH oxidase

Choose the **correct** answer from the options given below:

1. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

- 17807021369. 1
- 17807021370. 2
- 17807021371. 3
- 17807021372. 4

Question Number : 19 Question Id : 1780705396 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

In complement activation pathway, the proteins forming the membrane attack complex (MAC) are

1. C4b-C6-C7-C8-C9
2. C5b-C6-C7-C8-C9
3. C5b-C3-C6-C8-C9
4. C5b-C3-C4-C7-C9

Options :

17807021373. 1
 17807021374. 2
 17807021375. 3
 17807021376. 4

Question Number : 20 Question Id : 1780705397 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
(Syndrome)	(Reason or feature)
(A). Patau syndrome	(I). Trisomy of chromosome 18
(B). Lesch-Nyhan syndrome	(II). Trisomy of chromosome 13
(C). Cri-du-chat syndrome	(III). X-linked recessive disorder
(D). Edwards syndrome	(IV). Deletion of a small terminal portion of chromosome 5

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
3. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021377. 1
 17807021378. 2
 17807021379. 3
 17807021380. 4

Question Number : 21 Question Id : 1780705398 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Duchenne muscular dystrophy (DMD) is

1. X-linked dominant disorder
2. X-linked recessive disorder
3. Autosomes linked recessive disorder
4. Y-linked dominant disorder

Options :

17807021381. 1
17807021382. 2
17807021383. 3
17807021384. 4

Question Number : 22 Question Id : 1780705399 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one is the correct combination of statements for satellite DNA?

- (A). Satellite DNA differs from main-band DNA in its molecular composition, as established by buoyant density studies.
- (B). In humans, one of the most recognized satellite DNA sequences is the typhoidal family, found mainly in the centromere regions.
- (C). It is composed of repetitive sequences.
- (D). Satellite DNA is found in the heterochromatic centromeric regions of chromosomes.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (B) and (C) only
3. (B), (C) and (D) only
4. (A), (C) and (D) only

Options :

17807021385. 1
17807021386. 2
17807021387. 3
17807021388. 4

Question Number : 23 Question Id : 1780705400 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
Hormone	Functions
(A). Gastrin	(I). acts on the exocrine pancreas and stimulates secretion of water and bicarbonate ions
(B). Secretin	(II). inhibits gastric secretion and mobility
(C). Cholecystokinin (CCK)	(III). acts on the gastric glands and stimulates secretion of hydrochloric acid and pepsinogen
(D). Gastric inhibitory peptide (GIP)	(IV). acts on pancreas and gall bladder and stimulates secretion of pancreatic enzymes and bile juice, respectively

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
3. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

Options :

17807021389. 1
 17807021390. 2
 17807021391. 3
 17807021392. 4

Question Number : 24 Question Id : 1780705401 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Disorder Angina Pectoris occurs when :

1. blood vessels are affected that supply blood to the heart muscles
2. heart is not pumping enough blood to meet the body's requirement
3. not enough oxygen is reaching the heart muscles
4. blood pressure of individual is 140/90 mm Hg or higher

Options :

17807021393. 1
 17807021394. 2
 17807021395. 3
 17807021396. 4

Question Number : 25 Question Id : 1780705402 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I	List-II
(Vitamin)	(Role or function)
(A). B ₂ (riboflavin)	(I). Component of coenzyme A
(B). B ₃ (niacin)	(II). Coenzyme used in amino acid metabolism
(C). B ₅ (pantothenic acid)	(III). Component of coenzymes FAD and FMN
(D). B ₆ (pyridoxine)	(IV). Component of coenzymes NAD ⁺ and NADP ⁺

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021397. 1
17807021398. 2
17807021399. 3
17807021400. 4

Question Number : 26 Question Id : 1780705403 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

On the basis of VSEPR the structure of I₃⁻ is:

1. Trigonal bipyramidal
2. Linear
3. Trigonal pyramidal
4. Planar Triangle

Options :

17807021401. 1
17807021402. 2
17807021403. 3
17807021404. 4

Question Number : 27 Question Id : 1780705404 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

According to Debye theory, the atomic heat capacity (C_v) of a solid at low temperature is proportional to:

1. T
2. T²
3. T³
4. T⁴

Options :

- 17807021405. 1
- 17807021406. 2
- 17807021407. 3
- 17807021408. 4

Question Number : 28 Question Id : 1780705405 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following rearrangement involves the formation of carbocation as an intermediate?

- 1. Hoffmann rearrangement
- 2. Pinacol-Pinacolone rearrangement
- 3. Fries rearrangement
- 4. Benzil-Benzilic acid rearrangement

Options :

- 17807021409. 1
- 17807021410. 2
- 17807021411. 3
- 17807021412. 4

Question Number : 29 Question Id : 1780705406 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The unit of $\frac{1}{\mu_0 \epsilon_0}$ (Here μ_0 and ϵ_0 are the permeability and permittivity of free space) is:

- 1. m/s
- 2. m/s²
- 3. s/m²
- 4. m²/s²

Options :

- 17807021413. 1
- 17807021414. 2
- 17807021415. 3
- 17807021416. 4

Question Number : 30 Question Id : 1780705407 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

If a charged particle at rest experiences no electromagnetic force, then:

- 1. the electric field must be constant.
- 2. the magnetic force must be constant.
- 3. the electric field may or may not be zero.
- 4. the magnetic field may or may not be zero.

Options :

- 17807021417. 1
- 17807021418. 2

17807021419. 3

17807021420. 4

Question Number : 31 Question Id : 1780705408 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which Maxwell's equation is true for source-free electromagnetic field:

1. $\vec{\nabla} \cdot \vec{D} = \rho$
2. $\vec{\nabla} \cdot \vec{E} = \frac{\rho}{\epsilon_0}$
3. $\vec{\nabla} \cdot \vec{B} = 0$
4. $\vec{\nabla} \cdot \vec{H} = \frac{\rho}{\epsilon_0}$

Options :

17807021421. 1

17807021422. 2

17807021423. 3

17807021424. 4

Question Number : 32 Question Id : 1780705409 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Bohr's radius of the hydrogen atom is:

1. 0.43 Å
2. 1.3 Å
3. 0.53 Å
4. 0.35 Å

Options :

17807021425. 1

17807021426. 2

17807021427. 3

17807021428. 4

Question Number : 33 Question Id : 1780705410 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The first law of thermodynamics shows:

1. the concept of temperature of a system.
2. the concept of entropy of a system
3. the conservation of energy of a system.
4. the concept of change in heat of a system.

Options :

17807021429. 1

17807021430. 2

17807021431. 3

17807021432. 4

Question Number : 34 Question Id : 1780705411 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The efficiency of a Carnot's engine working between 127°C and 27°C is:

1. 25%
2. 75%
3. 50%
4. 40%

Options :

17807021433. 1
17807021434. 2
17807021435. 3
17807021436. 4

Question Number : 35 Question Id : 1780705412 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The Clausius-Clapeyron equation is:

1. $\frac{dP}{dT} = \frac{T}{L(V_2 - V_1)}$
2. $\frac{dP}{dT} = \frac{TL}{(V_2 - V_1)}$
3. $\frac{dP}{dT} = TL(V_2 - V_1)$
4. $\frac{dP}{dT} = \frac{L}{T(V_2 - V_1)}$

Options :

17807021437. 1
17807021438. 2
17807021439. 3
17807021440. 4

Question Number : 36 Question Id : 1780705413 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The Helmholtz function is defined as $F = U - TS$. Then, which of the following Maxwell's thermodynamical relation is correct:

1. $\left(\frac{\partial T}{\partial S}\right)_V = \left(\frac{\partial P}{\partial V}\right)_T$
2. $\left(\frac{\partial S}{\partial V}\right)_T = \left(\frac{\partial P}{\partial T}\right)_V$
3. $\left(\frac{\partial T}{\partial P}\right)_V = \left(\frac{\partial S}{\partial V}\right)_T$
4. $\left(\frac{\partial T}{\partial V}\right)_P = -\left(\frac{\partial S}{\partial V}\right)_T$

Options :

17807021441. 1
17807021442. 2
17807021443. 3
17807021444. 4

Question Number : 37 Question Id : 1780705414 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

For a superconductor, the transition temperature T_c and critical magnetic field H_c are related as:

1. $H_c = H_0(T_c - 1)$
2. $H_c = H_0(T_c + 1)$
3. $T_c = T_0 \left[1 - \left(\frac{H_0}{H_c} \right)^2 \right]$
4. $H_c = H_0 \left[1 - \left(\frac{T}{T_c} \right)^2 \right]$

Options :

17807021445. 1
17807021446. 2
17807021447. 3
17807021448. 4

Question Number : 38 Question Id : 1780705415 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The Poynting vector $\vec{S}$ for an electromagnetic wave is:

1. $\vec{S} = \frac{\vec{E} \times \vec{B}}{\mu_0}$
2. $\vec{S} = \frac{\vec{E} \times \vec{B}}{\epsilon_0}$
3. $\vec{S} = \epsilon_0 (\vec{E} \times \vec{B})$
4. $\vec{S} = \mu_0 (\vec{E} \times \vec{B})$

Options :

17807021449. 1
17807021450. 2
17807021451. 3
17807021452. 4

Question Number : 39 Question Id : 1780705416 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match **List-I** with **List-II**

List-I Quantity	List-II Operator
(A). Linear Momentum, p	(I) $i\hbar \frac{\partial}{\partial t}$
(B). Kinetic Energy, K	(II) $-\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2} + V(x)$
(C). Total Energy, E	(III) $-i\hbar \frac{\partial}{\partial x}$
(D). Hamiltonian operator, H	(IV) $-\frac{\hbar^2}{2m} \frac{\partial^2}{\partial x^2}$

Choose the **correct** answer from the options given below:

- (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
- (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
- (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
- (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021453. 1
 17807021454. 2
 17807021455. 3
 17807021456. 4

Question Number : 40 Question Id : 1780705417 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Given below are two statements: Heisenberg's uncertainty relations are defined as:

Statement (I): $(\Delta x)(\Delta p_y) \geq \frac{\hbar}{2}$

Statement (II): $(\Delta E)(\Delta t) \geq \frac{\hbar}{2}$

In light of the above statements, choose the *most appropriate* answer from the options given below.

- Both Statement (I) and Statement (II) are true.
- Both Statement (I) and Statement (II) are false.
- Statement (I) is true but Statement (II) is false.
- Statement (I) is false but Statement (II) is true.

Options :

17807021457. 1
 17807021458. 2
 17807021459. 3
 17807021460. 4

Question Number : 41 Question Id : 1780705418 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

$\hat{A}$ and $\hat{B}$ are the hermitian operators. The statements for both operators are given as:

Statement (I): If $\hat{A}\hat{B} = \hat{B}\hat{A}$, the operators $\hat{A}$ and $\hat{B}$ are said to be commuting operators.

Statement (II): If $\hat{A}\hat{B} \neq \hat{B}\hat{A}$, the operators $\hat{A}$ and $\hat{B}$ are said to be anti-commuting operators.

1. Both statement (I) and Statement (II) are false.
2. Both Statement (I) and Statement (II) are true.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

Options :

17807021461. 1
17807021462. 2
17807021463. 3
17807021464. 4

Question Number : 42 Question Id : 1780705419 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The expectation value of $\langle x \rangle$ for the ground state wave function $\psi_0(x) = Ae^{-\alpha x^2}$ of harmonic oscillator is:

1. 0
2. $\sqrt{\frac{\pi}{\alpha}}$
3. $\sqrt{\frac{\alpha}{\pi}}$
4. $\sqrt{\frac{2\alpha}{\pi}}$

Options :

17807021465. 1
17807021466. 2
17807021467. 3
17807021468. 4

Question Number : 43 Question Id : 1780705420 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The Hall coefficient is defined as:

(Symbols have their usual meanings.)

1. $R_H = ne$
2. $R_H = (ne)^2$
3. $R_H = n + e$
4. $R_H = -1/ne$

Options :

17807021469. 1
17807021470. 2
17807021471. 3
17807021472. 4

Question Number : 44 Question Id : 1780705421 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The ratio of thermal conductivity to electrical conductivity for all metals is:

1. directly proportional to absolute temperature.
2. inversely proportional to absolute temperature.
3. independent of absolute temperature.
4. directly proportional to the cube of absolute temperature (i.e. T^3).

Options :

17807021473. 1
17807021474. 2
17807021475. 3
17807021476. 4

Question Number : 45 Question Id : 1780705422 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The quantum energy of lattice vibration or elastic wave is called:

1. electron
2. proton
3. photon
4. phonon

Options :

17807021477. 1
17807021478. 2
17807021479. 3
17807021480. 4

Question Number : 46 Question Id : 1780705423 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Consider a hydrogen atom whose radius is $0.53 \text{ \AA}$. The minimum uncertainty in momentum (in SI units) is:

1. 9.9×10^{25}
2. 9.9×10^{-25}
3. 9.1×10^{-31}
4. 4.5×10^{21}

Options :

17807021481. 1
17807021482. 2
17807021483. 3
17807021484. 4

Question Number : 47 Question Id : 1780705424 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The magnetic susceptibility of diamagnetic material is:

1. 1
2. 0
3. -1
4. ∞

Options :

17807021485. 1
17807021486. 2
17807021487. 3
17807021488. 4

Question Number : 48 Question Id : 1780705425 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following is Type I Superconductor:

1. Vanadium
2. Gold
3. Niobium
4. Aluminium

Options :

17807021489. 1
17807021490. 2
17807021491. 3
17807021492. 4

Question Number : 49 Question Id : 1780705426 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which statement is true for Ampere's law for closed loop?

1. $\oint \vec{B} \cdot d\vec{l} = \epsilon_0 i_{enc}$
2. $\oint \vec{B} \cdot d\vec{S} = \epsilon_0 i_{enc}$
3. $\oint \vec{B} \cdot d\vec{l} = \mu_0 i_{enc}$
4. $\oint \vec{B} \cdot d\vec{S} = \mu_0 i_{enc}$

Options :

17807021493. 1
17807021494. 2
17807021495. 3
17807021496. 4

Question Number : 50 Question Id : 1780705427 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

In p-type semiconductors,

1. holes are the minority charge carriers and electrons are the majority charge carriers.
2. holes are the majority charge carriers and electrons are the minority charge carriers.
3. both holes and electrons are the majority charge carriers.
4. both holes and electrons are the minority charge carriers.

Options :

17807021497. 1
17807021498. 2
17807021499. 3
17807021500. 4

**Question Number : 51 Question Id : 1780705428 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1**

Which of the following reactions produces N-substituted amide as a major product?

- (A) Hoffmann rearrangement
(B) Schotten-Baumann reaction
(C) Lossen rearrangement
(D) Beckmann rearrangement

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (C) and (D) only
3. (B), (C) and (D) only
4. (B) and (D) only

Options :

17807021501. 1
17807021502. 2
17807021503. 3
17807021504. 4

**Question Number : 52 Question Id : 1780705429 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1**

Which of the following reactions are considered as Sandmeyer reaction?



Choose the **correct** answer from the options given below:

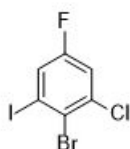
1. (A), (B) and (D) only
2. (A) and (D) only
3. (A), (B) and (C) only
4. (A), (B), (C) and (D)

Options :

17807021505. 1
17807021506. 2
17807021507. 3
17807021508. 4

Question Number : 53 Question Id : 1780705430 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The correct IUPAC name of the following compound is:



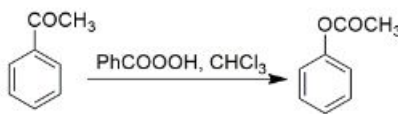
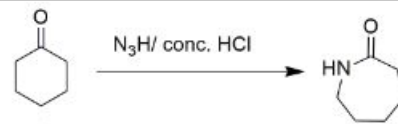
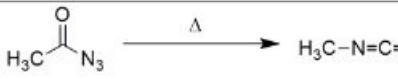
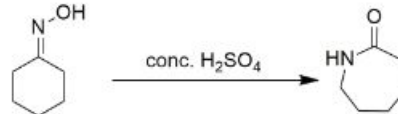
1. 1-Bromo-2-chloro-4-fluoro-6-iodobenzene
2. 4-Bromo-2-chloro-5-iodo-1-fluorobenzene
3. 2-Bromo-1-chloro-5-fluoro-3-iodobenzene
4. 2-Bromo-3-chloro-1-iodo-5-fluorobenzene

Options :

17807021509. 1
17807021510. 2
17807021511. 3
17807021512. 4

Question Number : 54 Question Id : 1780705431 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Match the following reactions of **List-I** with their name of **List-II**:

List-I	List-II
(Reaction)	(Name)
(A) 	(I) Schmidt rearrangement
(B) 	(II) Curtius rearrangement
(C) 	(III) Beckmann rearrangement
(D) 	(IV) Baeyer-Villiger oxidation

Choose the **correct** answer from the options given below:

- (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
- (A) - (IV), (B) - (III), (C) - (II), (D) - (I)
- (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
- (A) - (III), (B) - (I), (C) - (II), (D) - (IV)

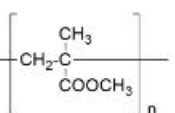
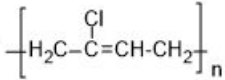
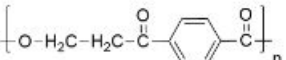
Options :

17807021513. 1
 17807021514. 2
 17807021515. 3
 17807021516. 4

Question Number : 55 Question Id : 1780705432 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following polymer is not correctly matched with its structure?

- PMMA ----- 
- Neoprene Rubber ----- 
- Nylon 6,6 ----- 
- Terylene ----- 

Options :

17807021517. 1
 17807021518. 2
 17807021519. 3

17807021520. 4

Question Number : 56 Question Id : 1780705433 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

What is the effective nuclear charge for 4s electron of Copper atom?

1. 3.70
2. 2.70
3. 3.35
4. 2.35

Options :

17807021521. 1
17807021522. 2
17807021523. 3
17807021524. 4

Question Number : 57 Question Id : 1780705434 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

Which of the following are **true** for Fajan's rule?

- (A). Cations with smaller size have high polarising power.
(B). Anions with larger size have high polarizability.
(C). High charge on cations and anions or on both result in greater covalent character in ionic bonds.
(D). Cations with pseudo inert gas configuration have high polarising power.

Choose the **correct** answer from the options given below:

1. (A), (B) and (D) only
2. (A), (C) and (D) only
3. (A), (B), (C) and (D)
4. (A) and (C) only

Options :

17807021525. 1
17807021526. 2
17807021527. 3
17807021528. 4

Question Number : 58 Question Id : 1780705435 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No
Correct Marks : 4 Wrong Marks : 1

The bond order 3.0 is shown by:

1. O_2^-
2. CN
3. NO^-
4. CN^-

Options :

17807021529. 1
17807021530. 2
17807021531. 3
17807021532. 4

Question Number : 59 Question Id : 1780705436 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The percentage ionic character of HF molecule is:

(Given: Charge on electron = 1.6×10^{-19} C; internuclear distance = $0.92 \text{ \AA}$; experimental dipole moment = 0.640×10^{-29} C m)

1. 4.9 %
2. 11.6 %
3. 16.8 %
4. 43.5 %

Options :

17807021533. 1
17807021534. 2
17807021535. 3
17807021536. 4

Question Number : 60 Question Id : 1780705437 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match chemical formula in **(List-I)** with their chemical name in **(List-II)**

List-I	List-II
(Chemical formula)	(Chemical Name)
(A) HNO_2	(I) Nitryl
(B) NO_4^{3-}	(II) Hyponitrite
(C) NO_2^+	(III) Orthonitrate
(D) $\text{N}_2\text{O}_2^{2-}$	(IV) Nitrous acid

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
3. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021537. 1
17807021538. 2
17807021539. 3
17807021540. 4

Question Number : 61 Question Id : 1780705438 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

What are the products **X** and **Y** in the given reaction :



1. $\text{BN}(\text{CH}_3)_3$, H_2
2. $\text{H}_3\text{BN}(\text{CH}_3)_3$, H_2
3. $\text{H}_5\text{BN}(\text{CH}_2)_4$, H
4. $\text{BN}(\text{CH}_3)_4$, H_2

Options :

17807021541. 1
17807021542. 2
17807021543. 3
17807021544. 4

Question Number : 62 Question Id : 1780705439 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Arrange the following in order of increasing molar ionic conductivities (in aqueous solutions)

(A) Rb^+

(B) K^+

(C) Na^+

(D) Cs^+

Choose the **correct** answer from the options given below:

1. (C), (A), (B), (D)
2. (A), (B), (C), (D)
3. (C), (B), (A), (D)
4. (A), (D), (C), (B)

Options :

17807021545. 1
17807021546. 2
17807021547. 3
17807021548. 4

Question Number : 63 Question Id : 1780705440 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The white fumes that appear around the bottle of anhydrous aluminum chloride are due to

1. Aluminium
2. Hydrogen gas
3. HCl gas
4. H_2O

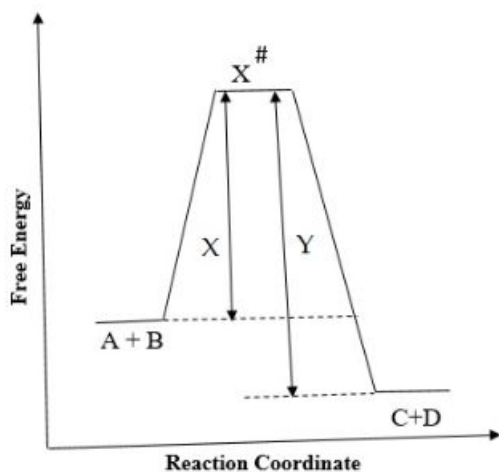
Options :

17807021549. 1
17807021550. 2
17807021551. 3
17807021552. 4

Question Number : 64 Question Id : 1780705441 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Reaction profile for the reaction: $A+B \rightleftharpoons X^\ddagger \rightleftharpoons C+D$ is shown below. The magnitude of free energy change for the reaction is:



1. X/Y
2. $X + Y$
3. $Y - X$
4. XY

Options :

17807021553. 1
17807021554. 2
17807021555. 3
17807021556. 4

Question Number : 65 Question Id : 1780705442 Question Type : MCQ Option Shuffling : No Display Question Number : Yes
Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match the derivative given in **List-I** with their results in **List-II**

List-I	List-II
(Derivative)	(Results)
(A). $\left(\frac{\partial A}{\partial V}\right)_T$	(I). $-\frac{nR}{P^2}$
(B). $\left(\frac{\partial^2 V}{\partial T \partial P}\right)$ For ideal gas	(II). - P
(C). $\left(\frac{\partial A}{\partial T}\right)_V$	(III). $-\left(\frac{\partial S}{\partial P}\right)_T$
(D). $\left(\frac{\partial V}{\partial T}\right)_P$	(IV). - S

Choose the **correct** answer from the options given below:

1. (A) - (I), (B) - (II), (C) - (III), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)

Options :

17807021557. 1
17807021558. 2
17807021559. 3
17807021560. 4

Question Number : 66 Question Id : 1780705443 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The shortest wavelength of Lyman series in hydrogen atom is X. The longest wavelength of Bracket series in He^+ can be expressed as

1. $\frac{75 X}{9}$
2. $\frac{100 X}{9}$
3. $\frac{9 X}{100}$
4. $\frac{9 X}{75}$

Options :

17807021561. 1
17807021562. 2
17807021563. 3
17807021564. 4

Question Number : 67 Question Id : 1780705444 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Match the Law given in **(List-I)** with the property/relation given in **List-II**

List-I	List-II
(Law)	(Property/relation)
(A). Debye- T^3	(I). $dS \geq dq/T$
(B). Clausius inequality	(II). $C_{p,m} = aT^3$
(C). Entropy of isothermal expansion	(III). $S = k \ln W$
(D). Boltzmann formula	(IV). $\Delta S = nR \ln \frac{V_f}{V_i}$

Choose the **correct** answer from the options given below:

1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Options :

17807021565. 1
17807021566. 2
17807021567. 3
17807021568. 4

Question Number : 68 Question Id : 1780705445 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The possible number of optical stereoisomers of $\text{CH}_3\text{CH}(\text{OH})\text{CH}=\text{CHCH}_3$ is:

1. 2
2. 3
3. 4
4. 6

Options :

17807021569. 1
17807021570. 2
17807021571. 3
17807021572. 4

Question Number : 69 Question Id : 1780705446 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

A copper spoon can be used to stir aqueous solution of which of the following salts?

(Given: $E^\circ_{Cu^{2+}|Cu} = 0.337\text{ V}$, $E^\circ_{Zn^{2+}|Zn} = -0.763\text{ V}$, $E^\circ_{Al^{3+}|Al} = -1.66\text{ V}$, $E^\circ_{Pb^{2+}|Pb} = -0.126\text{ V}$ and $E^\circ_{Ag^+|Ag} = 0.799\text{ V}$)

- (A) $ZnSO_4$
- (B) $AlCl_3$
- (C) $AgNO_3$
- (D) $PbCl_2$

Choose the **correct** answer from the options given below:

1. (C) only
2. (A), (B) and (C) only
3. (A), (B) and (D) only
4. (A) and (B) only

Options :

- 17807021573. 1
- 17807021574. 2
- 17807021575. 3
- 17807021576. 4

Question Number : 70 Question Id : 1780705447 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

The **correct** statements among the following is:

- (A) Concentration of the catalyst remains constant throughout the chemical reaction.
- (B) Decomposition of NH_3 on tungsten is an example of a homogeneous catalyst.
- (C) Catalyst provides an alternate pathway for the reaction with lower energy of activation.
- (D) Hydrolysis of ethyl acetate in acidic medium is an example of a heterogeneous catalyst.

1. (A) and (B) only
2. (A) and (C) only
3. (A), (B) and (D) only
4. (B), (C) and (D) only

Options :

- 17807021577. 1
- 17807021578. 2
- 17807021579. 3
- 17807021580. 4

Question Number : 71 Question Id : 1780705448 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which of the following statement is not true for NH_4Cl ?

1. Degree of hydrolysis is dependent on concentration.
2. It is a salt of weak base and strong acid.
3. Stronger the base, less is the hydrolysis of salt.
4. Its pH is always greater than seven.

Options :

17807021581. 1
17807021582. 2
17807021583. 3
17807021584. 4

Question Number : 72 Question Id : 1780705449 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

Which of the following statements are **true**?

- (A) Larger the value of the Henry's law constant at a given pressure, the smaller is the solubility of gas in the liquid.
(B) Henry's law will be applicable for low soluble gases at high temperatures and low pressure.
(C) All solutions which obey Henry's law must satisfy Raoult's law.
(D) The solubility of a gas is independent of the nature of solvent.

Choose the **correct** answer from the options given below:

1. (A), (B) and (C) Only
2. (A) and (B) Only
3. (C) and (D) Only
4. (B) and (D) Only

Options :

17807021585. 1
17807021586. 2
17807021587. 3
17807021588. 4

Question Number : 73 Question Id : 1780705450 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No Correct Marks : 4 Wrong Marks : 1

At temperature T, the correct relation between the average kinetic energy of H_2 and N_2 ?

1. $\overline{K.E}_{\text{H}_2} = \overline{K.E}_{\text{N}_2}$
2. $\overline{K.E}_{\text{H}_2} = 1.2 \overline{K.E}_{\text{N}_2}$
3. $\overline{K.E}_{\text{H}_2} = 1.4 \overline{K.E}_{\text{N}_2}$
4. $1.2 \overline{K.E}_{\text{H}_2} = \overline{K.E}_{\text{N}_2}$

Options :

17807021589. 1
17807021590. 2

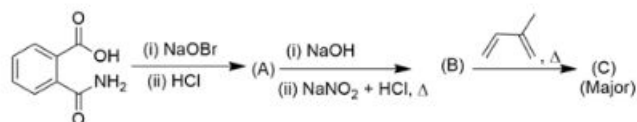
17807021591. 3

17807021592. 4

Question Number : 74 Question Id : 1780705451 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Identify the major product (C) in the following sequence of the reactions:



- 1.
- 2.
- 3.
- 4.

Options :

17807021593. 1

17807021594. 2

17807021595. 3

17807021596. 4

Question Number : 75 Question Id : 1780705452 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Is Question Mandatory : No

Correct Marks : 4 Wrong Marks : 1

Which one of the following is correct regarding the solubility of Ca(OH)_2 in pure water, 0.1 M NaOH and 0.01 M Ba(OH)_2 ?

(Given: K_{sp} of Ca(OH)_2 is 1.2×10^{-6} at 298 K)

1. Ca(OH)_2 has maximum solubility in pure water.
2. Ca(OH)_2 has maximum solubility in 0.1 N NaOH.
3. Ca(OH)_2 has maximum solubility in 0.01 Ba(OH)_2 .
4. Ca(OH)_2 has equal solubility in all three

Options :

17807021597. 1

17807021598. 2

17807021599. 3

17807021600. 4