

Computer Based Examination System

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| Exported On * | 2023/11/06 9:55:14 |
| Title * | Question Paper Answer Key |
| OES Exam * | GPSC06202311 / Assistant Professors in Government College in Chemistry (Physical)/ Completed / 2023-11-05 |

| | | |
|---|-----------------------------|---|
| 1 | Question Description | The essential symmetry for a monoclinic crystal system is |
| | A | one twofold symmetry |
| | B | One fourfold symmetry |
| | C | One threefold symmetry |
| | D | one six-fold symmetry |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

2

Question Description

Creatine phosphotransferase plays a role in synthesising ATP (Adenosine triphosphate) in the muscle cells. A phosphate group is transferred from creatinephosphate(CrP) to ADP (adenosine diphosphate). The experimental observations indicate that the Michaelis-Menton mechanism is prevalent. The apparent reaction rates are $1.75 \mu\text{M min}^{-1}$ and $0.8 \mu\text{M min}^{-1}$ when the concentration of CrP is 1.8 mM and 0.75 mM , respectively. What is the maximum rate that is expected for this process?

- A. $2.46 \mu\text{M min}^{-1}$
- B. 2.46 mM min^{-1}
- C. 2.46 nM min^{-1}
- D. 2.46 M min^{-1}

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

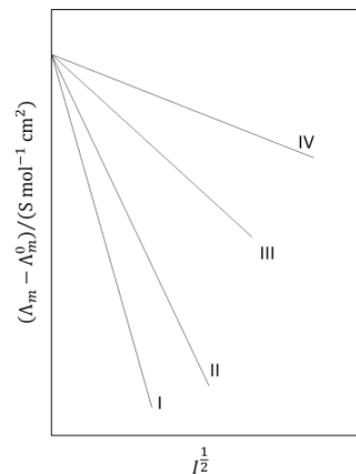
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| | | |
|---|-----------------------------|---|
| 3 | Question Description | BCS theory of superconductivity assumes: |
| | A | that there is some attraction between electrons, which can overcome the Coulomb repulsion. |
| | B | that there is some repulsion between electrons, which can overcome the Coulomb repulsion. |
| | C | that there is some attraction between electrons, which can overcome the Coulomb attraction. |
| | D | that there are no Coulombic forces |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

| | | |
|---|-----------------------------|--|
| 4 | Question Description | The vapour pressure exerted by 0.50 M aqueous solution of first group halide is 100 kPa at 100 degree Celsius. What is the activity of water in this solution? |
| | A | 0.0131 |
| | B | 0.9869 |
| | C | 1.0000 |
| | D | 1.0132 |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

Question Description

Q. The following graph shows the theoretical variation of molar conductivities as a function of ionic strength for four different salts, viz. AgNO_3 , CuSO_4 , FeCl_3 , SrCl_2 , Match the plot with the salt.



- A. I- CuSO_4 , II- FeCl_3 , III- SrCl_2 , IV- AgNO_3
 B. II- CuSO_4 , IV- FeCl_3 , III- SrCl_2 , I- AgNO_3
 C. II- CuSO_4 , III- FeCl_3 , IV- SrCl_2 , I- AgNO_3
 D. IV- CuSO_4 , II- FeCl_3 , III- SrCl_2 , I- AgNO_3

| | |
|-----------------------|-------------------|
| | |
| A | A |
| B | B |
| C | C |
| D | D |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |

| | | |
|---|-----------------------------|--|
| 6 | Question Description | The principle justifying the fact that certain electron rearrangements occur so rapidly that nuclei can be considered as stationary until the rearrangement is complete is : |
| | A | Heisenberg's Uncertainty Principle |
| | B | Frank Condon Principle |
| | C | Aufbau Principle |
| | D | Pauli's Exclusion Principle |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

7

| | |
|-----------------------------|-------------------------------|
| Question Description | A phase transition is always: |
| A | Isothermal-isoentropic |
| B | Isochoric-isothermal |
| C | Isothermal-isobaric |
| D | Isothermal-isobaric |
| E | None of the above |
| Correct Answer | D |
| Marks | 1 |

8

| | |
|-----------------------------|---|
| Question Description | what are the normal modes of vibrations of N_2O ? |
| A | 1 |
| B | 3 |
| C | 4 |
| D | 7 |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |

| | | |
|---|-----------------------------|--|
| 9 | Question Description | The mobility of an ion in s solution is dependent on |
| | A | only viscosity |
| | B | only radii |
| | C | both viscosity and radii |
| | D | neither viscosity nor radii |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 10 | Question Description | Equation indicating the appearance of diffraction pattern caused by a lecule in a path of electron beam is: |
| | A | Wierl equation |
| | B | Scheerer equation |
| | C | Bragg's equation |
| | D | De-Broglie's equation |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

11

Question Description

The Gibbs energy for a reversible reaction of the form; $G6P(aq)$ (Glucose-6-Phosphate) \leftrightarrow $F6P(aq)$ (Fructose-6-Phosphate) is directly related to chemical potential as

- A sum of the chemical potential of G6P and F6P
- B difference of chemical potential of F6P and G6P
- C inversely proportional to the sum of chemical potential of G6P and F6P
- D square of sum of the chemical potential of G6P and F6P

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

| | | |
|----|-----------------------------|--|
| 12 | Question Description | In a close packing, the coordination number of Cesium Chloride structure is? |
| | A | 4 |
| | B | 8 |
| | C | 16 |
| | D | 2 |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 13 | Question Description | If the initial concentration of reactant for a first order reaction is doubled, the half life of the product will be? |
| | A | double |
| | B | reduce to half |
| | C | become four time |
| | D | remain same |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

14

| | |
|-----------------------------|--|
| Question Description | Theory showcasing the solid-state reaction amongst the following is: |
| A | Boyle's theory |
| B | Wagner's theory |
| C | Poison's theory |
| D | Bragg's theory |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |

15

| | |
|-----------------------------|--|
| Question Description | Which of the following is in accordance with the theorem of minimum entropy production? |
| A | The state in which the thermodynamic variables are independent of the time, is characterized by a minimum value of the rate of entropy production for steady state an irreversible process |
| B | The state in which the thermodynamic variables are dependent on time, is characterized by a minimum value of the rate of entropy production for steady state an irreversible process. |
| C | The state in which the thermodynamic variables are independent of the time, is characterized by a minimum value of the rate of entropy production for steady state a reversible process |
| D | The state in which the thermodynamic variables are dependent on time, is characterized by a minimum value of the rate of entropy production for steady state a reversible process. |
| E | None of the above |
| Correct Answer | A |
| Marks | 1 |

| | | |
|----|-----------------------------|---|
| 16 | Question Description | Which among the following is provided by the slope of a Lineweaver Burk plot? |
| | A | maximum velocity |
| | B | Catalytic efficiency |
| | C | K_M |
| | D | Min velocity |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 17 | Question Description | In an electrochemical cell, the change in potential with increase of 1 unit pH results in |
| | A | increase in potential by 29.6mV |
| | B | decrease in potential by 29.6mV |
| | C | increase in potential by 59.2 mV |
| | D | decrease in potential by 59.2 mV |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 18 | Question Description | For strong electrolytes the plot of molar conductance vs \sqrt{C} is: |
| | A | Parabolic |
| | B | Linear |
| | C | Sinusoidal |
| | D | Circular |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 19 | Question Description | What is the Chemical Shift of an organic compound showing a proton NMR peak at 240 Hz downfield with respect to tetramethyl silane obtained in a spectrometer operating at 60 MHz? |
| | A | 1 ppm |
| | B | 2 ppm |
| | C | 3 ppm |
| | D | 4 ppm |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

20

Question Description

The rate of formation of NH_3 in the reaction $\text{N}_2(\text{g}) + 3\text{H}_2(\text{g}) \rightarrow 2\text{NH}_3(\text{g})$ was reported as $1.2 \text{ mmol dm}^{-3} \text{ s}^{-1}$ under a certain set of conditions. What is the rate of consumption of H_2 ?

- A $1.8 \text{ mmol dm}^{-3} \text{ s}^{-1}$
- B $0.9 \text{ mmol dm}^{-3} \text{ s}^{-1}$
- C $2.7 \text{ mmol dm}^{-3} \text{ s}^{-1}$
- D $5.4 \text{ mmol dm}^{-3} \text{ s}^{-1}$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

21

Question Description

The Gibbs energy $\Delta_f G^{**}$ for an exergonic compound, ($K > 1$) is

- A greater than zero
- B less than zero
- C equal to zero
- D fluctuates

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

22

| | |
|-----------------------------|--|
| Question Description | The principle justifying the fact that certain electron rearrangements occur so rapidly that nuclei can be considered as stationary until the rearrangement is complete is : |
| A | Heisenberg's Uncertainty Principle |
| B | Frank Condon Principle |
| C | Aufbau Principle |
| D | Pauli's Exclusion Principle |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |

23

Question Description

Integrated form of Gibbs-Helmholtz equation is given as

$$(\Delta G/T_2) - (\Delta G/T_1) = \text{_____}$$

A. $-\int_{T_1}^{T_2} \left(\frac{\Delta H}{T^{-1}}\right) dt$

B. $-\int_{T_1}^{T_2} \left(\frac{\Delta H}{T^2}\right) dt$

C. $-\int_{T_2}^{T_1} \left(\frac{\Delta H}{T^2}\right) dt$

D. $-\int_{T_2}^{T_1} \left(\frac{\Delta H}{T^{-1}}\right) dt$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

| | | |
|----|-----------------------------|---|
| 24 | Question Description | The theory/law explaining about a pair of oppositely charged ions getting trapped in each other's coulombic field is: |
| | A | Bjerrum theory of ion association |
| | B | Debye – Huckel Limiting law |
| | C | Bjerrum theory of ion dissociation |
| | D | Debye – Huckel Onsager law |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 25 | Question Description | The reference material used in ESR spectroscopy is |
| | A | 2,2-Diphenyl-1-picrylhydrazyl radical |
| | B | 2,2-Diphenyl-1-picrylhydrazine radical |
| | C | 2,2-Diphenyl-1-picrichydrazyl radical |
| | D | 2,2-Diphenyl-1-picrylhydrazonium radical |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

26

Question Description

Q. The Gibbs energy of mixing of two substances a and b is given by the following expression

$$\Delta_{mix}G = RT\{x_a \ln x_a + x_b \ln x_b + \beta x_a x_b\}$$

where x_a and x_b are the mole fractions of the two substances in the mixture. For what values of β would the phase separation be spontaneous?

- A. $\beta = 0$
- B. $\beta < 2$
- C. $\beta > 2$
- D. $\beta = 2$

A A**B** B**C** C**D** D**E** None of the above**Correct Answer** C**Marks** 1

27

Question Description

A beam of x-rays from a copper target with wave length 154.1 pm, is passed at a low angle onto the surfaced of a silver crystal. As the angle is increased from the glancing angle, a beam of reflected x-rays is observed at $\theta = 22.20^\circ$. What will be the spacing between the planes of silver atoms that give rise to these reflections? (other higher order reflections ignored). Given $\sin \theta = 0.3778$

A

102 pm

B

408 pm

C

306 pm

D

204 pm

E

None of the above

Correct Answer

D

Marks

1

28

Question Description

Considering O_2 to be a rigid molecule, and given that the ground state of the molecule is ${}^3\Sigma_g^-$. Which electronically excited states are accessible by allowed electronic transitions?

A. ${}^3\Sigma_u^-$ and ${}^3\Pi_u$ states

B. ${}^3\Sigma_g^-$ and ${}^3\Pi_u$ states

C. ${}^3\Sigma_u^+$ and ${}^3\Pi_u$ states

D. ${}^3\Sigma_g^+$ and ${}^3\Pi_u$ states

A A

B B

C C

D D

E None of the above

Correct Answer A

Marks 1

29

| | |
|-----------------------------|--|
| Question Description | The ionic strength of a solution containing 0.008 M AlCl_3 and 0.005 M KCl is: |
| A | 0.134 M |
| B | 0.053 M |
| C | 0.106 M |
| D | 0.086 M |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |

30

Question Description

In case of the benzene anion radical the hyperfine splitting constant (HSC) is observed to be 3.75 gauss. The observed HSC in naphthalene anion radicals is about 4.95 gauss and 1.80 gauss respectively for the alpha and beta protons. The value of electron density (corrected to 2 places of decimal) on each alpha and beta carbon of the naphthyl anion radical are

A

0.22 on the alpha carbon and 0.08 on the beta carbon

B

0.08 on the alpha carbon and 0.22 on the beta carbon

C

0.76 on the alpha carbon and 0.49 on the beta carbon

D

0.76 on the alpha carbon and 0.24 on the beta carbo

E

None of the above

Correct Answer

A

Marks

1

| | | |
|----|-----------------------------|--|
| 31 | Question Description | NMR spectra is obtained in _____ region of electromagnetic spectrum. |
| | A | Microwave |
| | B | Radiofrequency |
| | C | X-ray |
| | D | Cosmic |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 32 | Question Description | By what transitions are the vibrational transitions accompanied with? |
| | A | Vibrational |
| | B | Rotational |
| | C | Electronic |
| | D | Electric |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 33 | Question Description | The interplanar distance (\AA) for (100) plane in a cubic structure with the lattice parameter of 4 \AA . Is: |
| | A | 1 |
| | B | 2 |
| | C | 4 |
| | D | 8 |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 34 | Question Description | The order of a Chemical reaction having rate constant $k=1.2 \times 10^{-2} \text{mol}^{-2} \text{L}^2 \text{s}^{-1}$ is |
| | A | 0 |
| | B | 1 |
| | C | 2 |
| | D | 3 |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 35 | Question Description | A metal having FCC lattice structure with unit cell of length 40 nm and showing first order diffraction angle of X-ray beam from (2, 1, 0) plane of metal is 30°. The wavelength of X – ray used is close to: |
| | A | 11 nm |
| | B | 18 nm |
| | C | 25 nm |
| | D | 32 nm |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 36 | Question Description | The non radiative process amongst the following is: |
| | A | Intersystem crossing |
| | B | Internal Conversion |
| | C | Both A. and B. |
| | D | Neither A. nor B. |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

37

Question DescriptionFor the operator d/dx operating on the function $f(x)=x^{13}$, operand is:

- A. d/dx
- B. $13x^{12}$
- C. x^{13}
- D. 13

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

C

Marks

1

| | | |
|----|-----------------------------|---|
| 38 | Question Description | For elementary biomolecular reactions, the overall order will be? |
| | A | First order |
| | B | second order |
| | C | zero order |
| | D | Cannot be determined |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 39 | Question Description | The correct number of normal modes of vibration present in C_2H_2 is? |
| | A | 4 |
| | B | 1 |
| | C | 7 |
| | D | 5 |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

40

Question Description

If energy of activation, E_a of a Chemical reaction is zero, the rate constant k will acquire a value close to (A is a Arrhenius constant)

- A. 0
- B. ∞
- C. A^2
- D. A^{-1}

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

C

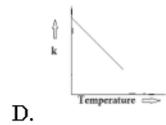
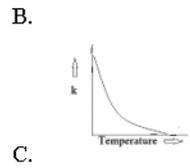
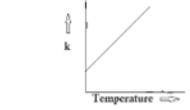
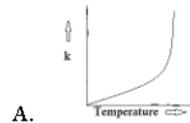
Marks

1

41

Question Description

Amongst the following plots, which plot follows Arrhenius equation?



A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

| | | |
|----|-----------------------------|---|
| 42 | Question Description | In which order reaction is rate independent of the initial concentrations of the reactants. |
| | A | 0 |
| | B | 1 |
| | C | 2 |
| | D | 3 |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 43 | Question Description | The rotational (microwave) spectrum of a rigid diatomic rotor consists of equally spaced lines with line spacing of |
| | A | B |
| | B | $B/2$ |
| | C | $3B/2$ |
| | D | $2B$ |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

44

Question Description

In the NMR spectra of ethanol, CH₃ protons form a group of nuclei at

A $\delta = 4$

B $\delta = 1$

C $\delta = 3$

D $\delta = 2$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

45

Question Description

The right specific selection rule for vibrational transition is ?

A $\nu = \pm 1$ B $\nu = 0$ C $\nu = \pm 2$ D $\nu = \pm 4$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

46

| | |
|-----------------------------|--|
| Question Description | Which among the following molecule is not infrared active? |
| A | CO ₂ |
| B | H ₂ O |
| C | N ₂ |
| D | C ₆ H ₆ |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |

47

Question Description

NMR spectrum of a compound is recorded at 300 K and 270 K. In the two experiments

(I) At lower temperature there are larger availability of excited proton magnetic states

(II) The chemical shift, measured in ppm, will be different at the two temperatures

A

Both statements are correct

B

Both statements are incorrect

C

Statement I is correct, but Statement II is incorrect

D

Statement I is incorrect, but statement II is correc

E

None of the above

Correct Answer

A

Marks

1

Question Description

The variation of total volume of a binary mixture is given by the following relationship

$$v = 1.9005 + 0.054x - 0.00943x^2 + 0.0000586x^3$$

where x is the molefraction of solute. The plot of variation in partial molar volume of solute with the molefraction is expected to be

- A. Straight line with positive slope
- B. Straight line with negative slope
- C. Parabolic
- D. Sigmoidal

A A

B B

C C

D D

E None of the above

Correct Answer C

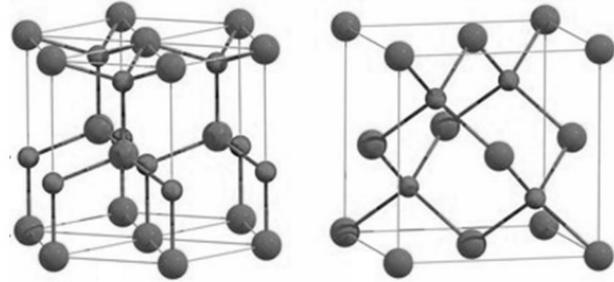
Marks 1

Question Description

A transition metal chalcogen arranges itself in two types as shown below. In the figure, the larger circles represent anion, while smaller ones the cation. By visual inspection identify the structures as they are popularly known as

Type I

Type II



- A. Type I- Zinc Blende, Type II- Wurzite
- B. Type I- Zinc Blende, Type II- Rock Salt
- C. Type I- Rock Salt, Type II- Wurzite
- D. Type I- Wurzite, Type II- Zinc Blende

A A

B B

C C

D D

E None of the above

Correct Answer D

Marks 1

50

Question Description

Q. Assuming that the restoring forces for the bonds each of the molecule is same, the vibrational frequency for the following molecules will be in the order:

$^{13}\text{C}^{18}\text{O}$, $^{15}\text{N}^{14}\text{N}$, $^{13}\text{C}^{16}\text{O}$, $^{14}\text{N}^{14}\text{N}$

- A. $^{13}\text{C}^{18}\text{O} > ^{15}\text{N}^{14}\text{N} = ^{13}\text{C}^{16}\text{O} > ^{14}\text{N}^{14}\text{N}$
- B. $^{13}\text{C}^{18}\text{O} < ^{15}\text{N}^{14}\text{N} = ^{13}\text{C}^{16}\text{O} < ^{14}\text{N}^{14}\text{N}$
- C. $^{13}\text{C}^{18}\text{O} > ^{13}\text{C}^{16}\text{O} > ^{15}\text{N}^{14}\text{N} > ^{14}\text{N}^{14}\text{N}$
- D. $^{13}\text{C}^{18}\text{O} < ^{15}\text{N}^{14}\text{N} < ^{13}\text{C}^{16}\text{O} < ^{14}\text{N}^{14}\text{N}$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

D

Marks

1

51

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The essence of American character, as suggested in the passage, lies in the phrase

A

disinterested intellectual operation

B

production of coal and steel and oil

C

desire for mastery over the world

D

sane use of intelligence and wealth

E

None of the above

Correct Answer

D

Marks

1

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The statement "For such is her destiny", indicates that America is inclined to strive for

A

the kingdom of elevators

B

political power over the world

C

slighter and less serious pursuits

D

the kingdom of heaven

E

None of the above

Correct Answer

B

Marks

1

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The following is not a synonym for "effete"

A

affected

B

effective

C

enfeebled

D

effeminate

E

None of the above

Correct Answer

B

Marks

1

54

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

The statement about "producing Literature and Art as coal, steel and oil" implies

A

a materialistic approach to creative work

B

a realistic view of literature and art

C

a prudent view of cultural activity

D

a keen interest in refinement of spirit

E

None of the above

Correct Answer

A

Marks

1

55

Comprehension

Read the following passage and answer the questions below:

Americans, I am aware, believe that they will produce Literature and Art, as they produce coal and steel and oil, by the judicious application of intelligence and capital; but here they do themselves injustice. The qualities that are making them masters of the world, unfit them for slighter and less serious pursuits. The future is for them the kingdom of elevators, of telephones, of motor-cars, of flying machines. Let them not idly hark back, misled by the effete traditions, to the old European dream of the kingdom of heaven ...let them say, "for Europe, Letters and Art", let America rule the world by syndicates and trusts!" For such is her true destiny, and that she conceives it to be such, is evidenced by the determination with which she has suppressed all irrelevant activities. Every kind of disinterested intellectual operation she has severely repudiated.

Question Description

Select the option closest in meaning to the phrase "severely repudiated" in the passage

A

refused to fulfil

B

refused to discharge

C

rejected outright

D

refused to accept

E

None of the above

Correct Answer

C

Marks

1

| | | |
|----|-----------------------------|---|
| 56 | Question Description | Which city in India is aiming to become the first wetland city? |
| | A | Udaipur |
| | B | Jaipur |
| | C | Jodhpur |
| | D | Kota |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |
| 57 | Question Description | Which Indian aerospace organization unveiled its Vikram-1 orbital rocket in October 2023? |
| | A | Skyroot Aerospace |
| | B | Indian Space Research Organisation |
| | C | Bharat Heavy Electricals Limited |
| | D | Bharat Dynamics Limited |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 58 | Question Description | Which case has the Supreme Court referred to a five-judge Constitution Bench recently? |
| | A | Aadhaar case |
| | B | Electoral bond case |
| | C | Pegasus case |
| | D | Farm laws case |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 59 | Question Description | Which country won the gold medal in the men's hockey event at the 2023 Asian Games? |
| | A | Japan |
| | B | South Korea |
| | C | Pakistan |
| | D | India |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 60 | Question Description | Which city is known as the "Tea City of India"? |
| | A | Kolkata |
| | B | Guwahati |
| | C | Darjeeling |
| | D | Dibrugarh |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 61 | Question Description | What is the name of the recent potential cyclonic storm formed in the Arabian Sea? |
| | A | Cyclone Nisarga |
| | B | Cyclone Tej |
| | C | Cyclone Biparjoy |
| | D | Cyclone Asani |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 62 | Question Description | How many member countries are there in NATO in 2023? |
| | A | 31 |
| | B | 30 |
| | C | 29 |
| | D | 35 |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 63 | Question Description | What is the name of India's first semi-high-speed regional rail service? |
| | A | Namo Bharat |
| | B | Rapid B |
| | C | Vande Bharat |
| | D | Speed X |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

64

| | |
|-----------------------------|---|
| Question Description | Where was the first edition of the Indian Military Heritage Festival inaugurated? |
| A | Mumbai |
| B | Bangalore |
| C | Chennai |
| D | New Delhi |
| E | None of the above |
| Correct Answer | D |
| Marks | 1 |

65

| | |
|-----------------------------|---|
| Question Description | Who won the gold medal in the men's T63 high jump event at the Asian Para Games 2023? |
| A | Pranav Soorma |
| B | Shailesh Kumar |
| C | Mariyappan Thangavelu |
| D | Padhiyar Govindbhai |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |

66

| | |
|-----------------------------|--|
| Question Description | Owner of a branded shoe showroom earns 25% profit after giving 25% discount. Now, if he wants to give 10% discount, what would be his profit percentage? |
| A | 30% |
| B | 40% |
| C | 50% |
| D | 60% |
| E | None of the above |
| Correct Answer | C |
| Marks | 1 |

67

Question Description

Assuming the given statements to be true, decide which of the conclusion is true, disregarding the commonly known facts

Statements

- I. All locks are keys
- II. All chains are locks

Conclusions

A

all keys are locks

B

all chains are keys

C

all locks are chains

D

some chains are not keys

E

None of the above

Correct Answer

B

Marks

1

68

| | |
|-----------------------------|--|
| Question Description | IMT's hostel mess requires 60 kgs of rice every day except every 7 th day on which only 50 kgs of rice is required. If this continues, how many kgs of rice is required for 150 days starting from the first day? |
| A | 9000 kgs |
| B | 8790 kgs |
| C | 8970 kgs |
| D | 9890 kgs |
| E | None of the above |
| Correct Answer | B |
| Marks | 1 |

| | | |
|----|-----------------------------|---|
| 69 | Question Description | In an interview panel, seven members are sitting in a row. A is in between D & F, C is in between F & G. G is between C & E and D is in between B & A. Find the person sitting in the middle. |
| | A | D |
| | B | F |
| | C | B |
| | D | A |
| | E | None of the above |
| | Correct Answer | B |
| | Marks | 1 |

| | | |
|----|-----------------------------|---|
| 70 | Question Description | Find the missing alphabet in the following series? O, T, T, F, F, S, S, E, ? |
| | A | E |
| | B | N |
| | C | G |
| | D | H |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 71 | Question Description | If BEAUTY is coded as DHEZZF, how will FLOWER be written in that code? |
| | A | HSOBYK |
| | B | HBOSKY |
| | C | SBKYOH |
| | D | HOSBKY |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 72 | Question Description | Select the pair of words that are related to each other in the same way as the two capitalized words PAPER:WOOD |
| | A | ink: colour |
| | B | brush: paint |
| | C | brick: clay |
| | D | cloth: dresses |
| | E | None of the above |
| | Correct Answer | C |
| | Marks | 1 |

73

Question Description

Understand the pattern in the given figure and find the missing number

| | | | |
|---|----|----|----|
| | 4 | 9 | |
| 6 | 20 | ? | 6 |
| 5 | 39 | 51 | 10 |
| | 8 | 7 | |

A 45**B** 32**C** 54**D** 28**E** None of the above**Correct Answer** A**Marks** 1

| | | |
|----|-----------------------------|---|
| 74 | Question Description | If SIZZLING is coded as 5 and ABSENTEE as 6, then what is the code for LETTERS? |
| | A | 5 |
| | B | 6 |
| | C | 7 |
| | D | 8 |
| | E | None of the above |
| | Correct Answer | A |
| | Marks | 1 |

| | | |
|----|-----------------------------|--|
| 75 | Question Description | Raju's age is three years more than four times Balu's age. After five years, Raju's age will be one year more than thrice Balu's age. What is Raju's present age in years? |
| | A | 8 |
| | B | 13 |
| | C | 32 |
| | D | 35 |
| | E | None of the above |
| | Correct Answer | D |
| | Marks | 1 |