

Computer Based Examination System

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Title *	Question Paper Answer Key
OES Exam *	GPSC12202407 / Assistant Professors in Government College in Chemistry(Physical)/ Completed / 2025-06-29

1	Question Description For the equation $f(x) = 2.\cos(x)$, when operator $\frac{d^2}{dx^2}$ operates on $f(x)$; the eigen value is: A. -2 B. 2 C. $-2.\cos(x)$ D. $2.\cos(x)$
A	A
B	B
C	C
D	D
E	None of the above
Correct Answer	A
Marks	1

2

Question Description	In a second order reaction $A \rightarrow B$, if the concentration of A is doubled, the half life of the reaction will be:
A	halved
B	unchanged
C	doubled
D	quadrupled
E	None of the above
Correct Answer	A
Marks	1

3

Question Description	Given the rate constant for the pseudo first-order acid-catalysed hydrolysis of glucose as $4.07 \times 10^{-4} \text{ s}^{-1}$, the time required for the reactant to decay to $[1/32]$ of its initial concentration is approximately equal to:
A	3400 s
B	4455 s
C	6808 s
D	8514 s
E	None of the above
Correct Answer	D
Marks	1

4

Question Description	In the vibrational–rotational spectrum of a diatomic molecule, the Q-branch is absent in:
A	Infrared spectrum
B	Linear molecules
C	Diatomic molecules
D	Symmetric top molecules
E	None of the above
Correct Answer	C
Marks	1

5

Question Description	The relationship between C_p and C_v in thermodynamics is:
A	$C_p - C_v = R$
B	$C_v - C_p = R$
C	$C_p + C_v = R$
D	All of the above
E	None of the above
Correct Answer	A
Marks	1

Question Description

The de Broglie wavelength of a neutron having kinetic energy of 0.0125 eV is close to: [Useful data: Planck's constant (h) = 6.626×10^{-34} J s, Mass of neutron = 1.675×10^{-27} kg, $1 \text{ eV} = 1.602 \times 10^{-19}$ J]

(A) 2.56 Å

(B) 1.8 Å

(C) 1.8×10^{-6} m

(D) 2×10^{-12} m

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

7

Question Description	In a parallel reaction $A \rightarrow B$ and $A \rightarrow C$, the product ratio $[B]/[C]$ depends on:
A	Temperature only
B	Initial concentration of A
C	Ratio of rate constants
D	Pressure
E	None of the above
Correct Answer	C
Marks	1

Question Description

Activation energy for a chemical reaction can be obtained by plotting:

A. $\ln(k)$ versus $1/T$

B. $\ln(k)$ versus T

C. k versus $1/T$

D. $\ln(k)$ versus $\ln(T)$

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

9

Question Description	Molten sodium chloride conducts electricity due to the presence of:
A	Free electrons
B	Free ions
C	Free molecules
D	Atoms of sodium and chloride
E	None of the above
Correct Answer	B
Marks	1

10 **Question Description** The Onsager reciprocal relations are applicable to:

A Equilibrium systems only

B Highly irreversible systems

C Systems near equilibrium

D Quantum mechanical systems only

E None of the above

Correct Answer C

Marks 1

11

Question Description

The Coulombic potential energy of an electron at a distance of 100 pm from a lithium, Li^{2+} , nucleus is close to: [Useful data: vacuum permittivity (ϵ_0) = $8.854 \times 10^{-12} \text{ J}^{-1} \text{ C}^2 \text{ m}^{-1}$, elementary charge (e) = $1.602 \times 10^{-19} \text{ C}$, 1 pm = 10^{-12} m]

(A) $-6.923 \times 10^{-18} \text{ J}$ (B) $+3.455 \times 10^{-19} \text{ J}$ (C) $-1.725 \times 10^{-18} \text{ J}$ (D) $+1.725 \times 10^{-19} \text{ J}$ **A**

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

12	Question Description	The conductance of strong electrolytes increases with dilution because:
	A	Ion pairing increases
	B	Ionic mobility increases
	C	Solvation decreases
	D	Ion size decreases
	E	None of the above
	Correct Answer	B
	Marks	1

13	Question Description	The Debye–Hückel limiting law fails at:
	A	Infinite dilution
	B	Low ionic strength
	C	High electrolyte concentration
	D	Low temperatures
	E	None of the above
	Correct Answer	C
	Marks	1

14	Question Description	The number of normal modes of vibration in C ₂ H ₅ OH molecule is equal to:
	A	12
	B	22
	C	27
	D	21
	E	None of the above
	Correct Answer	D
	Marks	1

15	Question Description	Spin-spin coupling in NMR gives rise to:
	A	Shift in the base frequency
	B	Multiplet patterns
	C	Hyperfine splitting
	D	Chemical shift
	E	None of the above
	Correct Answer	B
	Marks	1

16

Question Description	Fugacity of a gas at low pressure approaches:
A	Infinity
B	Zero
C	Unity
D	Activity
E	None of the above
Correct Answer	C
Marks	1

17

Question Description

A plot of $\log [A]$ versus time (t) gives a straight line with a negative slope. The order of the reaction is:

A

0

B

1

C

2

D

3

E

None of the above

Correct Answer

B

Marks

1

18	Question Description	Which of the following energy is a molecule associated with?
	A	Vibrational
	B	Electronic
	C	Rotational
	D	All of the above
	E	None of the above
	Correct Answer	D
	Marks	1

19	Question Description	Solid-state reaction kinetics studies involves complex reaction between solid reactants undergoing:
	A	Diffusion
	B	Nucleation
	C	Interfacial reactions
	D	All of the above
	E	None of the above
	Correct Answer	D
	Marks	1

20

Question Description	A molecule returns to ground state from excited singlet via emission without spin change. This is:
A	Intersystem crossing
B	Phosphorescence
C	Fluorescence
D	Non-radiative decay
E	None of the above
Correct Answer	C
Marks	1

21

Question Description	For weak electrolytes the plot of molar conductance vs $\sqrt{C}$ follows:
A	Non – linear relationship
B	Linear relationship
C	Sinusoidal relationship
D	All of the above
E	None of the above
Correct Answer	A
Marks	1

22

Question Description	Method of diffraction revealing the arrangement of magnetic moments in materials,giving insights of the magnetic characteristics is
A	X-ray Diffraction
B	Neutron Diffraction
C	Both A. & B.
D	Neither A. nor B.
E	None of the above
Correct Answer	B
Marks	1

23

Question Description	The relationship between fluorescence (F) and temperature (T) is:
A	F is directly proportional to T
B	F is inversely proportional to T
C	F is independent of T
D	F is proportional to the square root of T
E	None of the above
Correct Answer	D
Marks	1

24	Question Description	In ESR spectroscopy, hyperfine structure arises from interaction of:
	A	Electron spin with external magnetic field
	B	Nuclear spin with external magnetic field
	C	Electron spin with nuclear spin
	D	Rotational motion of molecule
	E	None of the above
	Correct Answer	C
	Marks	1
25	Question Description	Which thermodynamic potential is most suitable for constant pressure and temperature processes?
	A	Enthalpy
	B	Helmholtz free energy
	C	Gibbs free energy
	D	Internal energy
	E	None of the above
	Correct Answer	C
	Marks	1

26	Question Description The nuclear spins of ^1H and ^2H are, respectively: A. $\frac{1}{2}$ and 1 B. $\frac{1}{2}$ and $\frac{1}{2}$ C. 1 and $\frac{1}{2}$ D. $\frac{1}{2}$ and 0
	A A
	B B
	C C
	D D
	E None of the above
	Correct Answer A
	Marks 1

27

Question Description

Among the following which is a symmetric top molecule?

A. H_2S B. CO_2 C. NH_3 D. CH_4 **A**

A

B

B

C

C

D

D

E

None of the above

Correct Answer

C

Marks

1

28

Question Description	Taking into consideration postulates of quantum mechanics, the state of a quantum mechanical system can be specified by considering systems:
A	Momentum
B	Energy
C	Position in space
D	Wavefunction
E	None of the above
Correct Answer	D
Marks	1

29

Question Description	The mean activity coefficient for the K^+ and NO_3^- ions in a $0.005 \text{ mol dm}^{-3}$ aqueous solution of potassium nitrate, KNO_3 , as per Debye-Hückel limiting law is approximately equal to:
A	0.84
B	0.77
C	0.92
D	0.46
E	None of the above
Correct Answer	C
Marks	1

30	Question Description	In the Lindmann mechanism for unimolecular reactions, the rate becomes first order:
	A	At high pressure
	B	At low pressure
	C	At very high temperatures
	D	For all pressures
	E	None of the above
	Correct Answer	A
	Marks	1
31	Question Description	The principle of minimum entropy production applies to:
	A	Isolated systems at equilibrium
	B	Open systems far from equilibrium
	C	Closed systems near equilibrium
	D	Any thermodynamic system
	E	None of the above
	Correct Answer	C
	Marks	1

32

Question Description	In photochemical reactions, the primary step is:
A	Formation of intermediates
B	Absorption of light
C	Heat generation
D	Change in pressure
E	None of the above
Correct Answer	B
Marks	1

33

Question Description	A superconducting material can be reverted back to its normal state by applying a strong magnetic field and overcoming:
A	Meissner effect.
B	Compton effect
C	Mesomeric effect
D	Inductive effect
E	None of the above
Correct Answer	A
Marks	1

34

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

35 Question Description what are the normal modes of vibrations of CO₂?

A 1

B 3

C 4

D 7

E None of the above

Correct Answer C

Marks 1

36

Question Description

A quantum-mechanical particle of mass m is confined within a three-dimensional box with all sides of the same length L . The degeneracy of the level with energy $6h^2 / 8mL^2$ is equal to:

A

9

B

6

C

3

D

2

E

None of the above

Correct Answer

C

Marks

1

37

Question Description	The theory stating that a steady state within a thermodynamic system with a constant external parameter will have the minimum rate of entropy production is:
A	Theory of minimum entropy production
B	Theory of entropy production
C	Ostwald's theory
D	Second law of thermodynamics
E	None of the above
Correct Answer	A
Marks	1

38

Question Description	The theory/law explaining behaviour of electrolytes in dilute solutions considering the ionic strength in solution useful in calculating activity coefficient of an ion in solution is:
A	Bjerrum theory of ion association
B	Debye – Huckel Limiting law
C	Bjerrum theory of ion dissociation
D	Hooks law
E	None of the above
Correct Answer	B
Marks	1

39

Question Description	Equations relating various physical processes, particularly in non-equilibrium thermodynamics are:
A	Debye reciprocal relations
B	Onsager reciprocal relations
C	Debye Onsagar reciprocal relations
D	Debye Huckel Onsager reciprocal relations
E	None of the above
Correct Answer	B
Marks	1

40

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

41

Question Description

A system undergoes a certain process and releases 500 J of heat to surroundings at 25°C without any heat loss. The entropy change in the surroundings is close to:

(A) $+1.68 \text{ J K}^{-1}$

(B) -1.68 J K^{-1}

(C) $+1.68 \text{ kJ K}^{-1}$

(D) -500 J K^{-1}

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

A

Marks

1

42

Question Description	In Solid State Chemistry, there are defined _____ crystal systems and _____ Bravais's lattices.
A	Seven and fourteen
B	Fourteen and seven
C	Fourteen and twenty-four
D	Twenty-four and fourteen
E	None of the above
Correct Answer	A
Marks	1

43

Question Description

The molar absorption coefficient of the $[\text{Cu}(\text{NH}_3)_4]^{2+}$ complex ion in aqueous solution is $50 \text{ dm}^3\text{mol}^{-1}\text{cm}^{-1}$ at a wavelength of 590 nm. The transmittance, when light of this wavelength passes through an aqueous solution of the ion of molar concentration $0.100 \text{ mol dm}^{-3}$ and path length 1.00 cm, is equal to:

A 10^{-2} **B** 10^{-5} **C** 10^{-6} **D** 10^{-4} **E**

None of the above

Correct Answer

B

Marks

1

Question Description

Integrated form of Gibbs-Helmholtz equation is given as

$$(\Delta G/T_2) - (\Delta G/T_1) = \underline{\hspace{2cm}}$$

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

45

Question Description

A π -electron in a conjugated hydrocarbon is confined to an effective distance of $6.27 \text{ \AA}$. The minimum uncertainty in the speed of the electron is close to: [Useful information: Planck's constant (h) = $6.626 \times 10^{-34} \text{ J s}$, $1 \text{ \AA} = 1 \times 10^{-10} \text{ m}$]

(A) 4.618 km s^{-1}

(B) 92.36 m s^{-1}

(C) 46.18 km s^{-1}

(D) 92.26 km s^{-1}

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

D

Marks

1

46

Question Description

The order of a Chemical reaction having rate constant $k=6.2 \times 10^{-5} \text{ s}^{-1}$ is

A. 0

B. 1

C. 2

D. 3

A

A

B

B

C

C

D

D

E

None of the above

Correct Answer

B

Marks

1

47	Question Description	The reference material used in NMR spectroscopy is
	A	Trimethyl Silane
	B	Tetramethyl Silane
	C	Triethyl Silane
	D	Tetraethyl Silane
	E	None of the above
	Correct Answer	B
	Marks	1

48	Question Description	Amongst the following, which is an extensive property?
	A	Heat Capacity
	B	Temperature
	C	Density
	D	All of the above
	E	None of the above
	Correct Answer	A
	Marks	1

49

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

50

Question Description	The harmonic vibrational wavenumber of the sulfur monoxide ($^{32}\text{S}^{16}\text{O}$) is given as 1123.7 cm^{-1} . The force constant for the sulfur monoxide bond is close to: [Useful data: $1\text{ amu} = 1.661 \times 10^{-27}\text{ kg}$, speed of light (c) = $3 \times 10^8\text{ m s}^{-1}$].
A	79.4 kN m^{-1}
B	$7.94\text{ }\mu\text{N m}^{-1}$
C	794 N m^{-1}
D	7.94 N m^{-1}
E	None of the above
Correct Answer	C
Marks	1

Comprehension

Read the Passage and answer the Questions:

Human skin maintains its health and smoothness by means of a fatty substance called sebum, secreted by millions of glands located near the roots of hair. This oily substance oozes to the skin and forms a protective mixture with sweat, to keep our skin moist and pliable. In very cold weather the sebum congeals and does not come to the surface of the skin; as a result, the skin becomes dry and chapped. Over-production or under-production of sebum causes excessively oily skin or excessively dry skin. During adolescence there is a rapid increase in sebum production causing skin eruptions. But as we grow older, sebum production decreases, causing dry skin, wrinkles and lack of elasticity.... Although, all skins seem to look alike, our skin is particularly our own so that our fingerprint patterns are unique and can never be found duplicated in any other skin pattern. Similarly, when there is a skin transplant, the skin is taken from another part of the same body, otherwise the body is liable to reject it.

Question Description

The discussion of *sebum* in the passage above, is relevant because it is

A

secreted right at the roots of hair on the skin

B

an oily substance oozing to the skin

C

protective of the health of human skin

D

a protective mixture with sweat

E

None of the above

Correct Answer

C

Marks

1

Comprehension

Read the Passage and answer the Questions:

Human skin maintains its health and smoothness by means of a fatty substance called sebum, secreted by millions of glands located near the roots of hair. This oily substance oozes to the skin and forms a protective mixture with sweat, to keep our skin moist and pliable. In very cold weather the sebum congeals and does not come to the surface of the skin; as a result, the skin becomes dry and chapped. Over-production or under-production of sebum causes excessively oily skin or excessively dry skin. During adolescence there is a rapid increase in sebum production causing skin eruptions. But as we grow older, sebum production decreases, causing dry skin, wrinkles and lack of elasticity.... Although, all skins seem to look alike, our skin is particularly our own so that our fingerprint patterns are unique and can never be found duplicated in any other skin pattern. Similarly, when there is a skin transplant, the skin is taken from another part of the same body, otherwise the body is liable to reject it.

Question Description

From the options provided below, select the one which is an inaccurate statement about human skin

A

all human skins are alike

B

human fingerprints are unique

C

donor and recipient of skin transplant is mostly the same

D

during adolescence excessive sebum causes skin eruptions

E

None of the above

Correct Answer

A

Marks

1

Comprehension	Read the Passage and answer the Questions: Human skin maintains its health and smoothness by means of a fatty substance called sebum, secreted by millions of glands located near the roots of hair. This oily substance oozes to the skin and forms a protective mixture with sweat, to keep our skin moist and pliable. In very cold weather the sebum congeals and does not come to the surface of the skin; as a result, the skin becomes dry and chapped. Over-production or under-production of sebum causes excessively oily skin or excessively dry skin. During adolescence there is a rapid increase in sebum production causing skin eruptions. But as we grow older, sebum production decreases, causing dry skin, wrinkles and lack of elasticity.... Although, all skins seem to look alike, our skin is particularly our own so that our fingerprint patterns are unique and can never be found duplicated in any other skin pattern. Similarly, when there is a skin transplant, the skin is taken from another part of the same body, otherwise the body is liable to reject it.
Question Description	Identify the word or term used in the passage to imply “using a part of the body from one donor site to transport it to another”
A	transplant
B	human skin
C	adolescent
D	duplicated
E	None of the above
Correct Answer	A
Marks	1

Comprehension

Read the Passage and answer the Questions:

Human skin maintains its health and smoothness by means of a fatty substance called sebum, secreted by millions of glands located near the roots of hair. This oily substance oozes to the skin and forms a protective mixture with sweat, to keep our skin moist and pliable. In very cold weather the sebum congeals and does not come to the surface of the skin; as a result, the skin becomes dry and chapped. Over-production or under-production of sebum causes excessively oily skin or excessively dry skin. During adolescence there is a rapid increase in sebum production causing skin eruptions. But as we grow older, sebum production decreases, causing dry skin, wrinkles and lack of elasticity.... Although, all skins seem to look alike, our skin is particularly our own so that our fingerprint patterns are unique and can never be found duplicated in any other skin pattern. Similarly, when there is a skin transplant, the skin is taken from another part of the same body, otherwise the body is liable to reject it.

Question Description

As per the passage ,the root cause of loss of elasticity of human skin is

A

adolescence

B

decrease in sebum production

C

dry skin and wrinkles

D

old age

E

None of the above

Correct Answer

B

Marks

1

Comprehension

Read the Passage and answer the Questions:

Human skin maintains its health and smoothness by means of a fatty substance called sebum, secreted by millions of glands located near the roots of hair. This oily substance oozes to the skin and forms a protective mixture with sweat, to keep our skin moist and pliable. In very cold weather the sebum congeals and does not come to the surface of the skin; as a result, the skin becomes dry and chapped. Over-production or under-production of sebum causes excessively oily skin or excessively dry skin. During adolescence there is a rapid increase in sebum production causing skin eruptions. But as we grow older, sebum production decreases, causing dry skin, wrinkles and lack of elasticity.... Although, all skins seem to look alike, our skin is particularly our own so that our fingerprint patterns are unique and can never be found duplicated in any other skin pattern. Similarly, when there is a skin transplant, the skin is taken from another part of the same body, otherwise the body is liable to reject it.

Question Description

In the context of the passage, the phrase “otherwise the body is liable to reject it” implies

A

if the skin transplant is not identical to the recipient’s skin

B

when skin transplanted is from another body

C

if the skin donor and recipient is not one and the same

D

all the above

E

None of the above

Correct Answer

D

Marks

1

56

Question Description	On which date is the World Day Against Child Labour observed annually?
A	May 30
B	June 5
C	June 12
D	July 1
E	None of the above
Correct Answer	C
Marks	1

57

Question Description	Which organization was accused by CCI of fixing advertising commission rates through WhatsApp groups?
A	Facebook India
B	Global media buying agencies
C	Public sector banks
D	E-commerce companies
E	None of the above
Correct Answer	B
Marks	1

58	Question Description	Who received the ‘Most Impactful Environmentalist’ award on World Environment Day?
	A	Vandana Shiva
	B	Sunita Narain
	C	R.K. Pachauri
	D	Acharya Prashant
	E	None of the above
	Correct Answer	D
	Marks	1
59	Question Description	What is the name of the VTOL drone recently tested by the Indian Army for precision deep-strike missions?
	A	Tejas Mark 2
	B	Agni Prime
	C	Rudrastra
	D	Astra Mk-II
	E	None of the above
	Correct Answer	C
	Marks	1

60

Question Description	Which Indian state organized the 'Bodhi Yatra' to promote its Buddhist heritage with delegates from ASEAN countries?
A	Uttar Pradesh
B	Maharashtra
C	Bihar
D	Gujarat
E	None of the above
Correct Answer	A
Marks	1

61

Question Description	The All Goa Road Contractors Association recently expressed strong opposition to a new Public Works Department (PWD) decision. What was this controversial PWD decision that the contractors are demanding to be reinstated?
A	Mandating the use of imported construction materials for all projects.
B	Eliminating the practice of rejecting bids quoting 20% below the estimated project cost.
C	Increasing the performance guarantee for all government tenders.
D	Prioritizing contractors from outside Goa for major infrastructure projects.
E	None of the above
Correct Answer	B
Marks	1

62

Question Description	Which Indian paramilitary force recently inducted women in combat roles in Maoist-hit areas?
A	CRPF
B	BSF
C	ITBP
D	CISF
E	None of the above
Correct Answer	A
Marks	1

63

Question Description	In which Indian state will the country's first underwater museum and artificial coral reef be developed?
A	Kerala
B	Tamil Nadu
C	Goa
D	Maharashtra
E	None of the above
Correct Answer	D
Marks	1

64

Question Description	Which Indian state signed an MoU with IN-SPACe to set up a space tech hub?
A	Kerala
B	Karnataka
C	Rajasthan
D	Odisha
E	None of the above
Correct Answer	B
Marks	1

65

Question Description	Goa Chief Minister Pramod Sawant recently announced plans to enact a special law aimed at regularizing unauthorized houses. On which specific types of land are these houses primarily located, making a special law necessary?
A	Forest department land and wildlife sanctuary areas.
B	Coastal Regulation Zone (CRZ) areas and private beaches.
C	Comunidade land
D	National Highway setbacks and railway property.
E	None of the above
Correct Answer	C
Marks	1

66

Question Description	In how many ways can the letters of the word 'LOGICAL' be arranged?
A	5040
B	360
C	720
D	1440
E	None of the above
Correct Answer	A
Marks	1

67

Question Description	In how many distinct ways can the letters of the word 'PENCIL' be arranged if the vowels must always stay together?
A	120
B	240
C	720
D	360
E	None of the above
Correct Answer	B
Marks	1

68	Question Description	The sum of the ages of a mother and her daughter is 50 years. The mother is 30 years older than the daughter. What are their ages?
	A	Mother: 35, Daughter: 15
	B	Mother: 40, Daughter: 10
	C	Mother: 45, Daughter: 5
	D	Mother: 50, Daughter: 0
	E	None of the above
	Correct Answer	A
	Marks	1

69	Question Description	A sum of money doubles itself in 5 years at simple interest. What is the rate of interest per annum?
	A	10%
	B	12%
	C	15%
	D	20%
	E	None of the above
	Correct Answer	A
	Marks	1

70

Question Description	A sum of money doubles itself in 5 years at simple interest. What is the rate of interest per annum?
A	10%
B	12%
C	15%
D	20%
E	None of the above
Correct Answer	D
Marks	1

71

Question Description	If 'P' means 'addition', 'Q' means 'subtraction', 'R' means 'multiplication', and 'S' means 'division', what is the value of $8 R 2 S 4 Q 6 P 2$?
A	10
B	00
C	14
D	16
E	None of the above
Correct Answer	B
Marks	1

72

Question Description	A train travels 60 km in 1 hour on level ground. When going uphill, its speed reduces by 25%, and when going downhill, it increases by 20%. If the train travels for 1 hour uphill, 1 hour downhill, and 1 hour on level ground, what total distance does it cover?
A	165 km
B	177 km
C	186 km
D	180 km
E	None of the above
Correct Answer	B
Marks	1

73

Question Description	If 'A' is coded as 1, 'B' as 2, ..., 'Z' as 26, what is the sum of the letters in the word 'EXAMINATION'?
A	130
B	140
C	150
D	160
E	None of the above
Correct Answer	C
Marks	1

74	Question Description	In a certain code language, if 'PAPER' is written as 'QBSFS', how is 'PENCIL' written in that code?
	A	QFQJDM
	B	QFQJDN
	C	QFQJDO
	D	QFQJDP
	E	None of the above
	Correct Answer	C
	Marks	1
75	Question Description	If 'A' is coded as 1, 'B' as 2, ..., 'Z' as 26, what is the sum of the letters in the word 'COMPUTER'?
	A	100
	B	111
	C	120
	D	130
	E	None of the above
	Correct Answer	B
	Marks	1