

DSSSB Exam July 2025

Participant ID	
Participant Name	
Test Center Name	iON Digital Zone iDZ 2 Sector 62
Test Date	22/07/2025
Test Time	9:00 AM - 12:00 PM
Subject	PGT Chemistry

Section : Mental Ability and Reasoning Ability

Q.1 In the following series, only one letter-cluster is incorrect. Select the INCORRECT letter-cluster.

PSV ORU NQT MPS LOR KNP

- Ans
- ☒ 1. NQT
 - ☒ 2. ORU
 - ☒ 3. PSV
 - ☒ 4. KNP

Question ID : 441009385393
Option 1 ID : 4410091507197
Option 2 ID : 4410091507196
Option 3 ID : 4410091507195
Option 4 ID : 4410091507194

Q.2 If '+' means division, '÷' means multiplication, '×' means subtraction and '-' means addition, then find the value of the following expression.

$$96 - 15 \div 21 + 7 \times 81$$

- Ans
- ☒ 1. 60
 - ☒ 2. 62
 - ☒ 3. 75
 - ☒ 4. 72

Question ID : 441009387470
Option 1 ID : 4410091515495
Option 2 ID : 4410091515496
Option 3 ID : 4410091515494
Option 4 ID : 4410091515497

Q.3 Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of ::?

: QTP :: EHD : %

- Ans
- ☒ 1. # = ORN, % = GJF
 - ☒ 2. # = OLP, % = GHK
 - ☒ 3. # = PRN, % = KLJ
 - ☒ 4. # = PTN, % = KJF

Question ID : 441009385273
Option 1 ID : 4410091506717
Option 2 ID : 4410091506716
Option 3 ID : 4410091506715
Option 4 ID : 4410091506714

Q.4 7 is related to 7.7 following a certain logic. Following the same logic, 12 is related to 13.2. To which of the given options is 14 related, following the same logic?

(Note: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g., 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

Ans ☒ 1. 15.7

☒ 2. 14.2

☒ 3. 15.4

☒ 4. 14.14

Question ID : 441009387420

Option 1 ID : 4410091515294

Option 2 ID : 4410091515296

Option 3 ID : 4410091515295

Option 4 ID : 4410091515297

Q.5 In this question, a statement is given followed by two courses of action, numbered I and II. You must assume everything in the statement to be true, and on the basis of the information given in the statement, decide which of the given courses of action logically follow(s) for pursuing.

Statement:

The number of cases of waterborne diseases in Town X has surged in the past few months due to contamination of the town's water supply.

Courses of Action:

I. Public awareness campaigns should be initiated to educate residents on proper water treatment methods and hygiene practices.

II. Authorities should conduct regular testing of the town's water supply to ensure its safety.

Ans ☒ 1. Only II follows.

☒ 2. Both I and II follow.

☒ 3. Only I follows.

☒ 4. Neither I nor II follows.

Question ID : 441009387490

Option 1 ID : 4410091515575

Option 2 ID : 4410091515577

Option 3 ID : 4410091515574

Option 4 ID : 4410091515576

Q.6 This question is based on the five, three-digit numbers given below.

(Left) 478 645 321 563 124 (Right)

(Example- 697 – First digit = 6, second digit = 9 and third digit = 7)

NOTE - All operations to be done from left to right.

If 2 is added to the first digit of every number, in how many numbers will the first digit be exactly divisible by the second digit?

Ans ☒ 1. Three

☒ 2. None

☒ 3. Two

☒ 4. One

Question ID : 441009105054

Option 1 ID : 441009418401

Option 2 ID : 441009418398

Option 3 ID : 441009418400

Option 4 ID : 441009418399

Q.7 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

Some cables are wires.

Some wires are nickel.

No nickel is silver.

Conclusions:

(I) Some cables are silver.

(II) All wires are silver.

Ans ☒ 1. Only conclusion (I) follows.

☒ 2. Neither conclusion (I) nor (II) follows.

☒ 3. Only conclusion (II) follows.

☒ 4. Both conclusions (I) and (II) follow.

Question ID : 441009385429

Option 1 ID : 4410091507338

Option 2 ID : 4410091507340

Option 3 ID : 4410091507339

Option 4 ID : 4410091507341

Q.8 किसी पंक्ति में एक निश्चित संख्या में व्यक्ति, उत्तर दिशा की ओर अभिमुख होकर बैठे हैं। D के बायीं ओर के व्यक्तियों की संख्या, D के दायीं ओर के व्यक्तियों की संख्या के बराबर है। A और C के बीच केवल एक व्यक्ति बैठा है। E, D के ठीक बायीं ओर पड़ोस में बैठा है। F, किसी एक छोर पर बैठा है। B और F के बीच केवल तीन व्यक्ति बैठे हैं। C, F के बायीं ओर 14वें स्थान पर बैठा है। A, बायें छोर से पाँचवें स्थान पर बैठा है। D, B के बायीं ओर चौथे स्थान पर बैठा है। यदि पंक्ति में कोई अन्य व्यक्ति नहीं बैठा है, तो कुल कितने व्यक्ति बैठे हैं?

Ans ☒ 1. 15

☒ 2. 18

☒ 3. 17

☒ 4. 19

Question ID : 441009385436

Option 1 ID : 4410091507367

Option 2 ID : 4410091507366

Option 3 ID : 4410091507368

Option 4 ID : 4410091507369

Q.9 65 is related to 39 following a certain logic. Following the same logic, 80 is related to 48. To which of the given options is 95 related, following the same logic?

(Note: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g., 13 – Operations on 13 such as adding/subtracting/multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

Ans ☒ 1. 58

☒ 2. 49

☒ 3. 63

☒ 4. 57

Question ID : 441009387421

Option 1 ID : 4410091515300

Option 2 ID : 4410091515299

Option 3 ID : 4410091515301

Option 4 ID : 4410091515298

Q.10 In a certain code language, 'EARN' is coded as '4902' and 'RANS' is coded as '9026'. What is the code for 'S' in that language?

- Ans
- ☐ 1. 0
 - ☐ 2. 2
 - ☒ 3. 6
 - ☐ 4. 9

Question ID : 441009379959
Option 1 ID : 4410091485634
Option 2 ID : 4410091485635
Option 3 ID : 4410091485636
Option 4 ID : 4410091485633

Q.11 Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

- Ans
- ☐ 1. DFB
 - ☐ 2. NPL
 - ☒ 3. LNI
 - ☐ 4. RTP

Question ID : 441009385390
Option 1 ID : 4410091507184
Option 2 ID : 4410091507183
Option 3 ID : 4410091507182
Option 4 ID : 4410091507185

Q.12 In the following series, only one letter-cluster is incorrect. Select the INCORRECT letter-cluster.

CYU IEA OKG UQN AWS GCY

- Ans
- ☐ 1. AWS
 - ☒ 2. UQN
 - ☐ 3. GCY
 - ☐ 4. IEA

Question ID : 441009385290
Option 1 ID : 4410091506783
Option 2 ID : 4410091506782
Option 3 ID : 4410091506784
Option 4 ID : 4410091506785

Q.13 This question is based on the five, three-digit numbers given below.

(Left) 352 692 259 381 462 (Right)

(Example-697 – First digit = 6, second digit = 9 and third digit = 7)

NOTE - All operations to be done from left to right.

If 2 is added to the first digit of every number, in how many numbers will the first digit be exactly divisible by the second digit?

- Ans
- ☐ 1. One
 - ☐ 2. None
 - ☒ 3. Two
 - ☐ 4. Three

Question ID : 441009105056
Option 1 ID : 441009418407
Option 2 ID : 441009418406
Option 3 ID : 441009418408
Option 4 ID : 441009418409

Q.14 What should come in place of the question mark (?) in the given series?

8 11 27 49 103 ?

- Ans
- ☒ 1. 202
 - ☒ 2. 200
 - ☒ 3. 210
 - ☒ 4. 201

Question ID : 441009387411
Option 1 ID : 4410091515261
Option 2 ID : 4410091515258
Option 3 ID : 4410091515259
Option 4 ID : 4410091515260

Q.15 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?

(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

- Ans
- ☒ 1. KR-PN
 - ☒ 2. HO-MJ
 - ☒ 3. DK-IF
 - ☒ 4. OV-TQ

Question ID : 441009385326
Option 1 ID : 4410091506926
Option 2 ID : 4410091506929
Option 3 ID : 4410091506928
Option 4 ID : 4410091506927

Q.16 If '+' means subtraction, '-' means multiplication, 'x' means division and '÷' means addition, then find the value of the following expression.

$14 - 3 + 111 \times 3 \div 29$

- Ans
- ☒ 1. 29
 - ☒ 2. 52
 - ☒ 3. 37
 - ☒ 4. 34

Question ID : 441009387469
Option 1 ID : 4410091515492
Option 2 ID : 4410091515490
Option 3 ID : 4410091515491
Option 4 ID : 4410091515493

Q.17 Manik starts from Point A and drives 14 km towards East. He then takes a left turn, drives 32 km, turns left and drives 45 km. He then takes a left turn and drives 46 km. He takes a final left turn, drives 31 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90-degree turns only unless specified.)

- Ans
- ☒ 1. 15 km to the North
 - ☒ 2. 17 km to the South
 - ☒ 3. 14 km to the North
 - ☒ 4. 16 km to the South

Question ID : 44100914707
Option 1 ID : 44100958682
Option 2 ID : 44100958684
Option 3 ID : 44100958681
Option 4 ID : 44100958683

Q.18 A, B, C, D, W, X, Y and Z are sitting around a square table, facing the centre of the table. Some of them are sitting at the corners while some are sitting at the exact centres of the sides. Only three people sit between A and W. A does not sit at any of the corners. B sits third to the left of W. D sits second to the left of A. Only X sits between W and D. Y is an immediate neighbour of A. Z sits second to the left of W. How many people sit between C and D, when counted from the left of C?

- Ans
- ☒ 1. Two
 - ☒ 2. One
 - ☒ 3. Four
 - ☒ 4. Three

Question ID : 441009385295
 Option 1 ID : 4410091506803
 Option 2 ID : 4410091506802
 Option 3 ID : 4410091506805
 Option 4 ID : 4410091506804

Q.19 'A * B' means 'A is the father of B',
 'A + B' means 'A is the sister of B',
 'A # B' means 'A is the brother of B' and
 'A % B' means 'A is the wife of B'.

Which of the following means that S is the mother of E?

- Ans
- ☒ 1. S % I * N # C + E
 - ☒ 2. S + I # N * C % E
 - ☒ 3. S + I * N # C % E
 - ☒ 4. S # I * N % C # E

Question ID : 441009385376
 Option 1 ID : 4410091507126
 Option 2 ID : 4410091507127
 Option 3 ID : 4410091507128
 Option 4 ID : 4410091507129

Q.20 A certain number of people are sitting in a row, facing north. Q is sitting 5th to the right of P. Only 6 people are sitting between Q and S. P is sitting 2nd to the right of T. If no other person is sitting in the row, what is the total number of persons seated?

- Ans
- ☒ 1. 15
 - ☒ 2. 16
 - ☒ 3. 8
 - ☒ 4. 7

Question ID : 441009385434
 Option 1 ID : 4410091507360
 Option 2 ID : 4410091507361
 Option 3 ID : 4410091507359
 Option 4 ID : 4410091507358

Section : General Awareness

Q.1 In June 2025, which of the following institutions signed a Memorandum of Understanding (MoU) with the Commission for Air Quality Management (CAQM) to reduce road dust pollution in the National Capital Region (NCR)?

- Ans ☒ 1. CSIR–Central Road Research Institute (CSIR–CRRRI) and School of Planning and Architecture (SPA), New Delhi
- ☐ 2. NITI Aayog and Indian Institute of Science (IISc), Bengaluru
- ☐ 3. Ministry of Road Transport and CSIR–National Environmental Engineering Research Institute (CSIR–NEERI)
- ☐ 4. CSIR–National Environmental Engineering Research Institute (CSIR–NEERI) and Indian Institute of Technology (IIT) Delhi

Question ID : 441009395351
Option 1 ID : 4410091546913
Option 2 ID : 4410091546914
Option 3 ID : 4410091546915
Option 4 ID : 4410091546912

Q.2 1 kWh = _____.

- Ans ☐ 1. 36×10^2 J
- ☒ 2. 3.6×10^6 J
- ☐ 3. 36×10^4 J
- ☐ 4. 36×10^3 J

Question ID : 441009646689
Option 1 ID : 4410092540874
Option 2 ID : 4410092540871
Option 3 ID : 4410092540872
Option 4 ID : 4410092540873

Q.3 Pata Naach of _____ is the folk dance of the Kurmi and Santhal tribes.

- Ans ☐ 1. Bihar
- ☒ 2. West Bengal
- ☐ 3. Manipur
- ☐ 4. Nagaland

Question ID : 441009395146
Option 1 ID : 4410091546093
Option 2 ID : 4410091546095
Option 3 ID : 4410091546092
Option 4 ID : 4410091546094

Q.4 Who collaborated with Venkat Raman Singh Shyam to write 'Finding My Way'?

- Ans ☐ 1. Ravi Kumar
- ☐ 2. Amrita Sher-Gil
- ☒ 3. S Anand
- ☐ 4. Subodh Gupta

Question ID : 441009395064
Option 1 ID : 4410091545767
Option 2 ID : 4410091545765
Option 3 ID : 4410091545764
Option 4 ID : 4410091545766

Q.5 Jamsetji Nusserwanji Tata founded the Tata Group in the year _____.

- Ans
- ☐ 1. 1875
 - ☐ 2. 1889
 - ☐ 3. 1864
 - ☒ 4. 1868

Question ID : 441009646851
Option 1 ID : 4410092541521
Option 2 ID : 4410092541522
Option 3 ID : 4410092541519
Option 4 ID : 4410092541520

Q.6 Which of the following is defined as the change in output per unit of change in the input when all other inputs are held constant?

- Ans
- ☒ 1. Marginal product of an input
 - ☐ 2. Intermediate product of an input
 - ☐ 3. Nominal product of an input
 - ☐ 4. Final product of an input

Question ID : 441009646756
Option 1 ID : 4410092541140
Option 2 ID : 4410092541141
Option 3 ID : 4410092541139
Option 4 ID : 4410092541142

Q.7 Which of the following is NOT a characteristic of globalisation?

- Ans
- ☐ 1. Increased international trade
 - ☐ 2. Movement of people across borders
 - ☒ 3. Stronger national borders
 - ☐ 4. Faster communication technologies

Question ID : 441009646761
Option 1 ID : 4410092541159
Option 2 ID : 4410092541162
Option 3 ID : 4410092541161
Option 4 ID : 4410092541160

Q.8 सल्तनत काल में मनाया जाने वाला नवरोज़ (Nowruz) _____ का नव वर्ष था।

- Ans
- ☐ 1. अफ़ग़ानियों
 - ☐ 2. तुर्कों
 - ☒ 3. फ़ारसियों
 - ☐ 4. अरबों

Question ID : 441009646873
Option 1 ID : 4410092541607
Option 2 ID : 4410092541608
Option 3 ID : 4410092541610
Option 4 ID : 4410092541609

Q.9 भारतीय संविधान के किस अनुच्छेद में उल्लेख है कि प्रधानमंत्री के नेतृत्व में मंत्रिपरिषद् राष्ट्रपति के कार्यों में सहायता करने के लिए उत्तरदायी है?

- Ans
- ☒ 1. अनुच्छेद 79(1)
 - ☒ 2. अनुच्छेद 74(1)
 - ☒ 3. अनुच्छेद 94(1)
 - ☒ 4. अनुच्छेद 84(1)

Question ID : 441009395296
Option 1 ID : 4410091546693
Option 2 ID : 4410091546692
Option 3 ID : 4410091546695
Option 4 ID : 4410091546694

Q.10 Where is the Central Institute of Indian Languages, Department of Higher Education, Ministry of Education, Government of India located?

- Ans
- ☒ 1. Bhubaneswar
 - ☒ 2. Hyderabad
 - ☒ 3. Mysore
 - ☒ 4. Patna

Question ID : 441009395129
Option 1 ID : 4410091546027
Option 2 ID : 4410091546026
Option 3 ID : 4410091546024
Option 4 ID : 4410091546025

Q.11 How many Directorates of Census Operations are functioning under the aegis of its Headquarters - Office of the Registrar General and Census Commissioner, India, New Delhi?

- Ans
- ☒ 1. 41
 - ☒ 2. 34
 - ☒ 3. 31
 - ☒ 4. 37

Question ID : 441009395209
Option 1 ID : 4410091546347
Option 2 ID : 4410091546345
Option 3 ID : 4410091546344
Option 4 ID : 4410091546346

Q.12 As per the India Employment Report 2024, among all migrants in 2021, what percentage of them migrated due to employment purposes?

- Ans
- ☒ 1. About 7.7%
 - ☒ 2. About 9.7%
 - ☒ 3. About 8.7%
 - ☒ 4. About 10.7%

Question ID : 441009646755
Option 1 ID : 4410092541135
Option 2 ID : 4410092541137
Option 3 ID : 4410092541136
Option 4 ID : 4410092541138

Q.13 भारत की पहली राष्ट्रीय कृषि नीति सरकार द्वारा वर्ष _____ में घोषित की गई थी।

- Ans ☒ 1. 1997
☒ 2. 2000
☒ 3. 1995
☒ 4. 2003

Question ID : 441009395156
Option 1 ID : 4410091546133
Option 2 ID : 4410091546134
Option 3 ID : 4410091546132
Option 4 ID : 4410091546135

Q.14 What was India's rank in the list of the most polluted countries in 2023, according to the 'World Air Quality Report' published in March 2024 by IQAir?

- Ans ☒ 1. First
☒ 2. Second
☒ 3. Third
☒ 4. Fourth

Question ID : 441009395361
Option 1 ID : 4410091546953
Option 2 ID : 4410091546955
Option 3 ID : 4410091546954
Option 4 ID : 4410091546952

Q.15 Who is the founder of the Space Zone, leading India's first reusable hybrid rocket Mission RHUMI-1?

- Ans ☒ 1. K Radhakrishnan
☒ 2. Madhavan Nair
☒ 3. Anand Megalingam
☒ 4. S Somnath

Question ID : 441009395355
Option 1 ID : 4410091546931
Option 2 ID : 4410091546928
Option 3 ID : 4410091546930
Option 4 ID : 4410091546929

Q.16 तिब्बत में, निम्नलिखित में से किस नदी को 'सिंगी खंबन (Singi Khamban)' के नाम से जाना जाता है?

- Ans ☒ 1. दामोदर
☒ 2. रामगंगा
☒ 3. सिंधु
☒ 4. सरयू

Question ID : 441009395214
Option 1 ID : 4410091546364
Option 2 ID : 4410091546367
Option 3 ID : 4410091546365
Option 4 ID : 4410091546366

Q.17 In which year did the first Lok Sabha come into existence?

- Ans
- ☐ 1. 1958
 - ☐ 2. 1961
 - ☒ 3. 1952
 - ☐ 4. 1955

Question ID : 441009395294
Option 1 ID : 4410091546686
Option 2 ID : 4410091546687
Option 3 ID : 4410091546684
Option 4 ID : 4410091546685

Q.18 Who was appointed as the acting chairperson of the National Human Rights Commission (NHRC) in June 2024?

- Ans
- ☐ 1. Anupama Rao
 - ☐ 2. Rajesh Kumar
 - ☒ 3. Vijaya Bharathi Sayani
 - ☐ 4. Ajay Singh

Question ID : 441009395305
Option 1 ID : 4410091546729
Option 2 ID : 4410091546730
Option 3 ID : 4410091546731
Option 4 ID : 4410091546728

Q.19 The mode of nutrition in the plant Cuscuta (Amarbel) is _____.

- Ans
- ☐ 1. autotrophic
 - ☐ 2. saprotrophic
 - ☐ 3. symbiotic
 - ☒ 4. parasitic

Question ID : 441009646636
Option 1 ID : 4410092540659
Option 2 ID : 4410092540660
Option 3 ID : 4410092540662
Option 4 ID : 4410092540661

Q.20 Dates for Upper Palaeolithic sites in Andhra Pradesh, Maharashtra, Madhya Pradesh and Rajasthan range from _____.

- Ans
- ☐ 1. 60,000 years to 11,000 years BP
 - ☐ 2. 50,000 years to 11,000 years BP
 - ☒ 3. 40,000 years to 11,000 years BP
 - ☐ 4. 70,000 years to 11,000 years BP

Question ID : 441009646840
Option 1 ID : 4410092541477
Option 2 ID : 4410092541476
Option 3 ID : 4410092541475
Option 4 ID : 4410092541478

Q.1 The average of the first 11 multiples of 18 is:

Ans ☒ 1. 99

☒ 2. 108

☒ 3. 11

☒ 4. 18

Question ID : 441009385985
Option 1 ID : 4410091509565
Option 2 ID : 4410091509562
Option 3 ID : 4410091509564
Option 4 ID : 4410091509563

Q.2 एक आदमी अपने मासिक वेतन का 50% (₹ में) किराए पर खर्च करता है। हर महीने वह परिवहन पर ₹591 और किराने पर ₹8,835 रुपये खर्च करता है और शेष ₹274 बचाता है। उसका मासिक वेतन (₹ में) ज्ञात कीजिए।

Ans ☒ 1. 19,308

☒ 2. 19,352

☒ 3. 19,324

☒ 4. 19,400

Question ID : 441009385882
Option 1 ID : 4410091509153
Option 2 ID : 4410091509152
Option 3 ID : 4410091509151
Option 4 ID : 4410091509150

Q.3 A group of people consists of men, women and children. 20% of them are men, 40% are women and the rest are children, and their average weights are 45 kg, 60 kg and 20 kg, respectively. The average weight of the group (in kg) is:

Ans ☒ 1. 42

☒ 2. 43

☒ 3. 40

☒ 4. 41

Question ID : 441009385980
Option 1 ID : 4410091509542
Option 2 ID : 4410091509544
Option 3 ID : 4410091509545
Option 4 ID : 4410091509543

Q.4 In a clearance sale of electronic items, an item whose marked price was ₹12,175 is sold for ₹11,201, and d% is the discount percentage on the item. The value of d is:

Ans ☒ 1. 10

☒ 2. 9

☒ 3. 8

☒ 4. 7

Question ID : 441009385811
Option 1 ID : 4410091508869
Option 2 ID : 4410091508868
Option 3 ID : 4410091508866
Option 4 ID : 4410091508867

Q.5 One-third of a journey is covered at a speed of 12 km/hr, the next one-third of the journey is covered at a speed of 59 km/hr and the remaining journey is covered at a speed of 61 km/hr. The average speed (in km/hr, rounded off to one decimal place) for the entire journey is:

- Ans
- ☒ 1. 24.2
 - ☒ 2. 25.7
 - ☒ 3. 29.7
 - ☒ 4. 23.1

Question ID : 441009385793
Option 1 ID : 4410091508796
Option 2 ID : 4410091508794
Option 3 ID : 4410091508795
Option 4 ID : 4410091508797

Q.6 A and B can complete a work in 16 days and 48 days, respectively. They started doing the work together but after 3 days, B had to leave, and A completed the remaining work alone. The remaining work was completed in _____ (days).

- Ans
- ☒ 1. 12
 - ☒ 2. 16
 - ☒ 3. 15
 - ☒ 4. 17

Question ID : 441009385965
Option 1 ID : 4410091509482
Option 2 ID : 4410091509484
Option 3 ID : 4410091509483
Option 4 ID : 4410091509485

Q.7 What length (in m) of canvas, $\frac{4}{7}$ m wide, is required to make a conica

- Ans
- ☒ 1. 3467
 - ☒ 2. 3407
 - ☒ 3. 3432
 - ☒ 4. 3372

Question ID : 441009386131
Option 1 ID : 4410091510148
Option 2 ID : 4410091510149
Option 3 ID : 4410091510146
Option 4 ID : 4410091510147

Q.8 P and Q together can fill a cistern in 3 hours. If P alone can fill the cistern in 6 hours, then in how many hours will Q alone fill the cistern?

- Ans
- ☒ 1. 5
 - ☒ 2. 8
 - ☒ 3. 6
 - ☒ 4. 7

Question ID : 441009385973
Option 1 ID : 4410091509517
Option 2 ID : 4410091509516
Option 3 ID : 4410091509514
Option 4 ID : 4410091509515

Q.9 A trader marks his goods 44% above the cost price and allows a discount of 10% on the marked price. He gains x%. The value of x is:

- Ans ☒ 1. 29.6
☐ 2. 31.6
☐ 3. 30.6
☐ 4. 28.6

Question ID : 441009385993
Option 1 ID : 4410091509594
Option 2 ID : 4410091509597
Option 3 ID : 4410091509596
Option 4 ID : 4410091509595

Q.10 The product of two numbers is 368, and their LCM is 92. Find their HCF.

- Ans ☐ 1. 2
☐ 2. 8
☒ 3. 4
☐ 4. 16

Question ID : 441009385942
Option 1 ID : 4410091509392
Option 2 ID : 4410091509391
Option 3 ID : 4410091509390
Option 4 ID : 4410091509393

Q.11 One-third of a journey is covered at a speed of 91 km/hr, the next one-third of the journey is covered at a speed of 49 km/hr and the remaining journey is covered at a speed of 19 km/hr. The average speed (in km/hr, rounded off to one decimal place) for the entire journey is:

- Ans ☐ 1. 34.3
☐ 2. 38.4
☒ 3. 35.7
☐ 4. 36.3

Question ID : 441009385794
Option 1 ID : 4410091508799
Option 2 ID : 4410091508801
Option 3 ID : 4410091508798
Option 4 ID : 4410091508800

Q.12 When the selling price of a television is ₹16,920, the shopkeeper incurs a loss of 6%. What should be the selling price (in ₹) of the television to gain 5%?

- Ans ☒ 1. 18,900
☐ 2. 20,900
☐ 3. 18,000
☐ 4. 20,000

Question ID : 441009385990
Option 1 ID : 4410091509582
Option 2 ID : 4410091509585
Option 3 ID : 4410091509583
Option 4 ID : 4410091509584

Q.13 A started a business with a capital of ₹3,66,000. After 3 months, B joined him with a certain amount of capital. At the end of a year of A's starting the business, the profit was shared in the ratio 6 : 3. How much (in ₹) did B invest?

- Ans
- ☐ 1. 2,53,100
 - ☐ 2. 2,44,200
 - ☐ 3. 2,27,700
 - ☒ 4. 2,44,000

Question ID : 441009385799
Option 1 ID : 4410091508819
Option 2 ID : 4410091508820
Option 3 ID : 4410091508821
Option 4 ID : 4410091508818

Q.14 The simple interest on a principal amount (in ₹) is ₹725 for a period of 2 years at the rate of 5% per annum. The principal amount (in ₹) is:

- Ans
- ☒ 1. 7,250
 - ☐ 2. 7,240
 - ☐ 3. 7,255
 - ☐ 4. 7,246

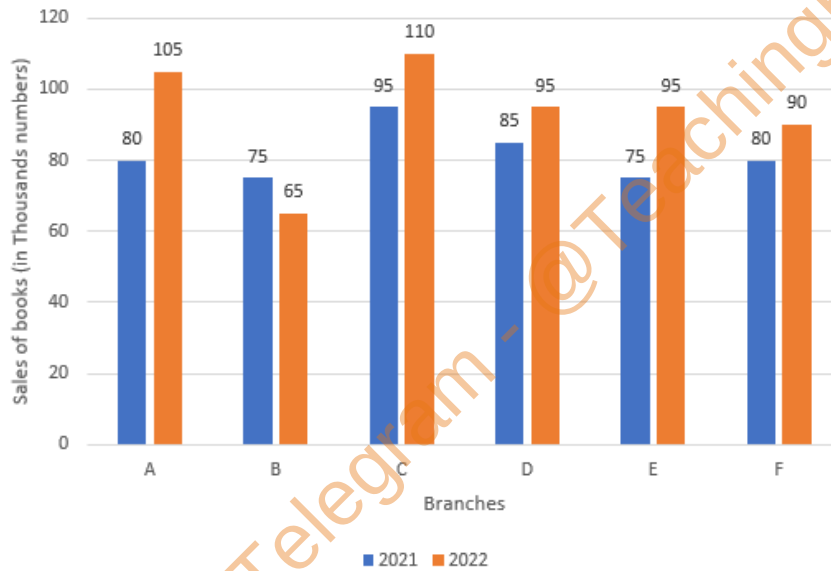
Question ID : 441009385864
Option 1 ID : 4410091509078
Option 2 ID : 4410091509080
Option 3 ID : 4410091509079
Option 4 ID : 4410091509081

Q.15 A man receives ₹4,690 per month as salary. He saves 20% of his salary every month. His expenditure (in ₹) per month is:

- Ans
- ☐ 1. 3,661
 - ☐ 2. 3,742
 - ☒ 3. 3,752
 - ☐ 4. 3,708

Question ID : 441009385885
Option 1 ID : 4410091509164
Option 2 ID : 4410091509163
Option 3 ID : 4410091509162
Option 4 ID : 4410091509165

Q.16 The bar graph given below shows the sales of books (in thousands) from six branches, A, B, C, D, E and F, of a publishing company during two consecutive years 2021 and 2022. Study the bar graph and answer the question that follows.



The ratio of the total sales of branches D, E and F for both the years to that of the total sales of branches A, B and C for both the years is:

- Ans
- ☒ 1. 51 : 56
 - ☒ 2. 51 : 55
 - ☒ 3. 52 : 53
 - ☒ 4. 52 : 55

Question ID : 441009385915
 Option 1 ID : 4410091509284
 Option 2 ID : 4410091509282
 Option 3 ID : 4410091509285
 Option 4 ID : 4410091509283

Q.17 The area (in cm^2) of an equilateral triangle of side 90 cm is:

- Ans
- ☒ 1. $2030\sqrt{3}$
 - ☒ 2. $2022\sqrt{3}$
 - ☒ 3. $2020\sqrt{3}$
 - ☒ 4. $2025\sqrt{3}$

Question ID : 441009386119
 Option 1 ID : 4410091510101
 Option 2 ID : 4410091510100
 Option 3 ID : 4410091510099
 Option 4 ID : 4410091510098

Q.18 The distance between two points on a map is 4 cm. The scale of the map is 1:366382. The actual distance (in km, rounded off to two decimal places) between the two points is:

- Ans
- ☒ 1. 14.26
 - ☒ 2. 14.66
 - ☒ 3. 11.98
 - ☒ 4. 17.31

Question ID : 441009385873
Option 1 ID : 4410091509116
Option 2 ID : 4410091509114
Option 3 ID : 4410091509115
Option 4 ID : 4410091509117

Q.19 Naresh invested ₹41,000 at 20% p.a. for 1 year at compound interest, compounded half-yearly. The amount he will receive at the end of the year is:

- Ans
- ☒ 1. ₹49,610
 - ☒ 2. ₹48,767
 - ☒ 3. ₹49,377
 - ☒ 4. ₹50,469

Question ID : 441009385828
Option 1 ID : 4410091508934
Option 2 ID : 4410091508935
Option 3 ID : 4410091508936
Option 4 ID : 4410091508937

Q.20 If the 6-digit number 5B013A is divisible by 11, then which of the following can give a possible relation between A and B?

- Ans
- ☒ 1. $A + B = 7$
 - ☒ 2. $A + B = -7$
 - ☒ 3. $A - B = 7$
 - ☒ 4. $A = B$

Question ID : 441009385658
Option 1 ID : 4410091508254
Option 2 ID : 4410091508256
Option 3 ID : 4410091508257
Option 4 ID : 4410091508255

Section : English Language and Comprehension

Q.1 Select the most appropriate question tag to fill in the blank.

As Jamie hasn't apologised, they should not forgive him, _____?

- Ans
- ☒ 1. hasn't they
 - ☒ 2. has they
 - ☒ 3. should they
 - ☒ 4. shouldn't they

Question ID : 44100989737
Option 1 ID : 441009357115
Option 2 ID : 441009357113
Option 3 ID : 441009357116
Option 4 ID : 441009357114

Q.2 Select the most appropriate ANTONYM of the given word.

Parched

- Ans ☒ 1. Scalded
☒ 2. Sick
☒ 3. Sorted
☒ 4. Soaked

Question ID : 4410096043
Option 1 ID : 44100923952
Option 2 ID : 44100923950
Option 3 ID : 44100923949
Option 4 ID : 44100923951

Q.3 Select the option that rectifies the incorrectly spelt word in the given sentence.

The lawyer presented a convincing but fallacious argument in court.

- Ans ☒ 1. fallasious
☒ 2. fallashcious
☒ 3. fallacious
☒ 4. fallescious

Question ID : 44100989800
Option 1 ID : 441009357373
Option 2 ID : 441009357370
Option 3 ID : 441009357371
Option 4 ID : 441009357372

Q.4 Select the option that can be used as a one-word substitute for the given group of words.

The use of credit to enhance one's speculative capacity

- Ans ☒ 1. Sabotage
☒ 2. Leverage
☒ 3. Sacrilege
☒ 4. Scourge

Question ID : 44100989777
Option 1 ID : 441009357280
Option 2 ID : 441009357279
Option 3 ID : 441009357277
Option 4 ID : 441009357278

Q.5 Select the most appropriate idiom to fill in the blank.

I've been investigating the issue for hours, trying _____. It is more intricate than I initially thought.

- Ans ☒ 1. taking to my heels
☒ 2. to get to the bottom of it
☒ 3. to wear the trousers
☒ 4. to rule the roost

Question ID : 441009382566
Option 1 ID : 4410091495826
Option 2 ID : 4410091495824
Option 3 ID : 4410091495825
Option 4 ID : 4410091495827

Q.6 Sentences of a paragraph are given below. While the first sentence (S1) is in the correct order, the sentences below it are jumbled up. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

S1. A chilling omission from the road map is the gigantic 'separation wall' being built in the West Bank of Israel.

P. Almost a decade after the end of South Africa's apartheid, this ghastly racist wall is going up with scarcely a peep from Israel's American allies, who are going to pay for most of it.

Q. This wall does not simply divide Israel from a putative Palestinian state on the basis of the 1967 borders.

R. It is surrounded by trenches, electric wires and moats; there are watchtowers at regular intervals.

S. It actually takes in new tracts of Palestinian land, sometimes five or six kilometres at a stretch.

Ans ☒ 1. PRSQ

☒ 2. QSRP

☒ 3. QPRS

☒ 4. SRQP

Question ID : 441009382212
Option 1 ID : 4410091494527
Option 2 ID : 4410091494524
Option 3 ID : 4410091494525
Option 4 ID : 4410091494526

Q.7 Select the most appropriate option to fill in the blank.

The meeting has been scheduled _____ Monday morning.

Ans ☒ 1. on

☒ 2. for

☒ 3. at

☒ 4. in

Question ID : 44100992714
Option 1 ID : 441009368580
Option 2 ID : 441009368579
Option 3 ID : 441009368578
Option 4 ID : 441009368577

Q.8 Select the option which has nearly the same meaning as the underlined phrase.

Although the project was delayed due to unforeseen technical issues, the final submission was praised for conforming to requirements set by the review committee. Since the team had worked tirelessly through multiple revisions, their efforts ultimately led to a successful evaluation.

Ans ☒ 1. Recessive

☒ 2. Dormant

☒ 3. Compliant

☒ 4. Impeded

Question ID : 44100989774
Option 1 ID : 441009357266
Option 2 ID : 441009357267
Option 3 ID : 441009357265
Option 4 ID : 441009357268

Q.9 Select the most appropriate option to fill in the blank.

He enjoys reading historical novels, _____?

- Ans
- ☐ 1. haven't he
 - ☐ 2. didn't he
 - ☒ 3. doesn't he
 - ☐ 4. isn't he

Question ID : 44100992563
Option 1 ID : 441009367966
Option 2 ID : 441009367968
Option 3 ID : 441009367965
Option 4 ID : 441009367967

Q.10 Select the most appropriate adjective to fill in the blank.

Since the _____ outfit was on sale, Prafulla bought it without uncertainty.

- Ans
- ☐ 1. messy
 - ☐ 2. fragile
 - ☒ 3. pricey
 - ☐ 4. placid

Question ID : 44100989754
Option 1 ID : 441009357178
Option 2 ID : 441009357177
Option 3 ID : 441009357179
Option 4 ID : 441009357180

Q.11 Select the most appropriate meaning of the given proverb.

Don't cross a bridge till you come to it.

- Ans
- ☐ 1. While travelling on a highway, be watchful of the traffic.
 - ☒ 2. Do not worry or think about problems till you face them.
 - ☐ 3. Go over a bridge slowly and steadily till you cross it.
 - ☐ 4. People's deeds determine their success or failure.

Question ID : 441009382591
Option 1 ID : 4410091495924
Option 2 ID : 4410091495927
Option 3 ID : 4410091495925
Option 4 ID : 4410091495926

Q.12 Select the most appropriate ANTONYM of the highlighted word to complete the conversation meaningfully.

Sarah: The recent argument between John and David has only exacerbated their misunderstanding.

Mark: I hope their next conversation will help to _____ their differences.

- Ans
- ☐ 1. aggravate
 - ☐ 2. intensify
 - ☐ 3. magnify
 - ☒ 4. alleviate

Question ID : 44100999916
Option 1 ID : 441009397612
Option 2 ID : 441009397613
Option 3 ID : 441009397615
Option 4 ID : 441009397614

Q.13 Select the most appropriate adverb to fill in the blank.

Hemant finished his work _____ because he had an important meeting.

- Ans ☒ 1. leisurely
☒ 2. sluggishly
☒ 3. indolently
☒ 4. swiftly

Question ID : 44100989755
Option 1 ID : 441009357183
Option 2 ID : 441009357181
Option 3 ID : 441009357184
Option 4 ID : 441009357182

Q.14 Identify the INCORRECTLY spelt word in the given paragraph and select the option that rectifies it.

The studio was filled with the rich odour of roses, and when the light summer wind stirred amidst the trees of the garden, there came through the open door the heavy scent of the lilac, or the more delicate perfume of the pink-flowering thorn. From the corner of the divan of Persian saddle-bags on which he lay, smoking, as was his custom, innumerable cigarettes rose in fantastic wreaths.

- Ans ☒ 1. Sadele
☒ 2. Saddle
☒ 3. Sadell
☒ 4. Sadel

Question ID : 441009102324
Option 1 ID : 441009407317
Option 2 ID : 441009407318
Option 3 ID : 441009407316
Option 4 ID : 441009407315

Q.15 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

- A. In the environment, it will harden, crack and breakdown into microplastics, but this can take decades.
B. But, like other plastics, synthetic chewing gum does not biodegrade and can persist in the environment for many years.
C. Most people have experienced discarded gum under bench seats, school desks and on street pavements.
D. If the idea of chewing plastic isn't disturbing enough, consider what happens after you spit it out.

- Ans ☒ 1. ADBC
☒ 2. DBAC
☒ 3. DCBA
☒ 4. CDBA

Question ID : 44100989766
Option 1 ID : 441009357225
Option 2 ID : 441009357226
Option 3 ID : 441009357228
Option 4 ID : 441009357227

Comprehension:

Read the given passage and answer the questions that follow.

In the 1980s, a junior scientist named Hartmut Heinrich and his colleagues extracted a series of deep-sea sediment cores from the ocean floor to study whether nuclear waste could be safely buried in the deep North Atlantic. Sediment cores contain a history of everything that accumulated on that part of the ocean floor over hundreds of thousands of years. Heinrich found several layers with lots of mineral grains and rock fragments from land.

The sediment grains were too large to have been carried to the middle of the ocean by the wind or ocean currents alone. Heinrich realised they must have been brought there by icebergs, which had picked up the rock and mineral when the icebergs were still part of glaciers on land. The layers with the most rock and mineral debris, from a time when the icebergs must have come out in force, coincided with severe weakening of the Atlantic current system. Those periods are now known as Heinrich events.

These findings provided the first strong evidence that sudden climate disruptions in the past were linked to changes in ocean circulation. Heinrich's work has since become a cornerstone in paleoclimatology, shaping our understanding of how seemingly gradual systems like ocean currents can shift rapidly and impact global climate.

SubQuestion No : 16

Q.16 What is the tone of the passage?

- Ans
- ☒ 1. Humorous
 - ☒ 2. Alarmist
 - ☒ 3. Critical
 - ☒ 4. Informative

Question ID : 441009382339
Option 1 ID : 4410091494968
Option 2 ID : 4410091494970
Option 3 ID : 4410091494971
Option 4 ID : 4410091494969

Comprehension:

Read the given passage and answer the questions that follow.

In the 1980s, a junior scientist named Hartmut Heinrich and his colleagues extracted a series of deep-sea sediment cores from the ocean floor to study whether nuclear waste could be safely buried in the deep North Atlantic. Sediment cores contain a history of everything that accumulated on that part of the ocean floor over hundreds of thousands of years. Heinrich found several layers with lots of mineral grains and rock fragments from land.

The sediment grains were too large to have been carried to the middle of the ocean by the wind or ocean currents alone. Heinrich realised they must have been brought there by icebergs, which had picked up the rock and mineral when the icebergs were still part of glaciers on land. The layers with the most rock and mineral debris, from a time when the icebergs must have come out in force, coincided with severe weakening of the Atlantic current system. Those periods are now known as Heinrich events.

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SubQuestion No : 17

Q.17 What is the main theme of the passage?

- Ans
- ☒ 1. The impact of wind and ocean currents on sediment transport
 - ☒ 2. The discovery and significance of Heinrich events
 - ☒ 3. The process of sediment core extraction
 - ☒ 4. The dangers of nuclear waste in the ocean

Question ID : 441009382336
Option 1 ID : 4410091494959
Option 2 ID : 4410091494958
Option 3 ID : 4410091494957
Option 4 ID : 4410091494956

Comprehension:

Read the given passage and answer the questions that follow.

In the 1980s, a junior scientist named Hartmut Heinrich and his colleagues extracted a series of deep-sea sediment cores from the ocean floor to study whether nuclear waste could be safely buried in the deep North Atlantic. Sediment cores contain a history of everything that accumulated on that part of the ocean floor over hundreds of thousands of years. Heinrich found several layers with lots of mineral grains and rock fragments from land.

The sediment grains were too large to have been carried to the middle of the ocean by the wind or ocean currents alone. Heinrich realised they must have been brought there by icebergs, which had picked up the rock and mineral when the icebergs were still part of glaciers on land. The layers with the most rock and mineral debris, from a time when the icebergs must have come out in force, coincided with severe weakening of the Atlantic current system. Those periods are now known as Heinrich events.

These findings provided the first strong evidence that sudden climate disruptions in the past were linked to changes in ocean circulation. Heinrich's work has since become a cornerstone in paleoclimatology, shaping our understanding of how seemingly gradual systems like ocean currents can shift rapidly and impact global climate.

SubQuestion No : 18

Q.18 How were the large sediment grains likely transported to the middle of the ocean?

- Ans ☒ 1. By icebergs
☐ 2. By ocean currents alone
☐ 3. By underwater volcanic eruptions
☐ 4. By wind alone

Question ID : 441009382337
Option 1 ID : 4410091494963
Option 2 ID : 4410091494961
Option 3 ID : 4410091494962
Option 4 ID : 4410091494960

Comprehension:

Read the given passage and answer the questions that follow.

In the 1980s, a junior scientist named Hartmut Heinrich and his colleagues extracted a series of deep-sea sediment cores from the ocean floor to study whether nuclear waste could be safely buried in the deep North Atlantic. Sediment cores contain a history of everything that accumulated on that part of the ocean floor over hundreds of thousands of years. Heinrich found several layers with lots of mineral grains and rock fragments from land.

The sediment grains were too large to have been carried to the middle of the ocean by the wind or ocean currents alone. Heinrich realised they must have been brought there by icebergs, which had picked up the rock and mineral when the icebergs were still part of glaciers on land. The layers with the most rock and mineral debris, from a time when the icebergs must have come out in force, coincided with severe weakening of the Atlantic current system. Those periods are now known as Heinrich events.

These findings provided the first strong evidence that sudden climate disruptions in the past were linked to changes in ocean circulation. Heinrich's work has since become a cornerstone in paleoclimatology, shaping our understanding of how seemingly gradual systems like ocean currents can shift rapidly and impact global climate.

SubQuestion No : 19

Q.19 What does the term 'sediment cores' refer to in the context of the passage?

- Ans ☐ 1. Samples of nuclear waste
☐ 2. Oceanic current measurements
☒ 3. Columns of sediment taken from the ocean floor containing historical records
☐ 4. Layers of ancient fossils

Question ID : 441009382340
Option 1 ID : 4410091494973
Option 2 ID : 4410091494975
Option 3 ID : 4410091494972
Option 4 ID : 4410091494974

Comprehension:

Read the given passage and answer the questions that follow.

In the 1980s, a junior scientist named Hartmut Heinrich and his colleagues extracted a series of deep-sea sediment cores from the ocean floor to study whether nuclear waste could be safely buried in the deep North Atlantic. Sediment cores contain a history of everything that accumulated on that part of the ocean floor over hundreds of thousands of years. Heinrich found several layers with lots of mineral grains and rock fragments from land.

The sediment grains were too large to have been carried to the middle of the ocean by the wind or ocean currents alone. Heinrich realised they must have been brought there by icebergs, which had picked up the rock and mineral when the icebergs were still part of glaciers on land. The layers with the most rock and mineral debris, from a time when the icebergs must have come out in force, coincided with severe weakening of the Atlantic current system. Those periods are now known as Heinrich events.

These findings provided the first strong evidence that sudden climate disruptions in the past were linked to changes in ocean circulation. Heinrich's work has since become a cornerstone in paleoclimatology, shaping our understanding of how seemingly gradual systems like ocean currents can shift rapidly and impact global climate.

SubQuestion No : 20

Q.20 What can be inferred about the relationship between Heinrich events and the Atlantic current system?

- Ans
- ☒ 1. Heinrich events strengthened the Atlantic current system.
 - ☒ 2. Heinrich events had no impact on the Atlantic current system.
 - ☒ 3. Heinrich events occurred during times of strong Atlantic currents.
 - ☒ 4. Heinrich events coincided with severe weakening of the Atlantic current system.

Question ID : 441009382338
Option 1 ID : 4410091494967
Option 2 ID : 4410091494965
Option 3 ID : 4410091494964
Option 4 ID : 4410091494966

Section : Hindi Language and Comprehension

Q.1 'अतिथि' को भगवान के समान माना जाता है। 'अतिथि' शब्द का पर्याय क्या है?

- Ans
- ☒ 1. लागत
 - ☒ 2. आफत
 - ☒ 3. अभ्यास
 - ☒ 4. अभ्यागत

Question ID : 441009130353
Option 1 ID : 441009517803
Option 2 ID : 441009517806
Option 3 ID : 441009517804
Option 4 ID : 441009517805

Q.2 निम्न मुहावरे का सही अर्थ अंकित कीजिए।
अंधे के हाथ बटेर लगना -

- Ans
- ☒ 1. अनायास कोई बड़ा लाभ मिलना
 - ☒ 2. अचानक कोई बड़ा समाचार मिलना
 - ☒ 3. अचानक कोई बड़ा धक्का लगना
 - ☒ 4. अचानक कोई बड़ी खबर मिलना

Question ID : 441009130097
Option 1 ID : 441009516785
Option 2 ID : 441009516784
Option 3 ID : 441009516783
Option 4 ID : 441009516786

Q.3 निम्नलिखित विकल्पों में सही वाक्य क्रम अंकित कीजिए।

- Ans ☒ 1. मुझे फल पसंद नहीं है लेकिन सब्जियां।
☒ 2. मुझे फल पसंद है लेकिन सब्जियां नहीं।
☒ 3. मुझे नहीं फल पसंद है लेकिन सब्जियां।
☒ 4. मुझे पसंद है लेकिन फल सब्जियां नहीं।

Question ID : 441009129883

Option 1 ID : 441009515940

Option 2 ID : 441009515942

Option 3 ID : 441009515939

Option 4 ID : 441009515941

Q.4 निम्न वाक्यांश के लिए सार्थक शब्द अंकित कीजिए।
जो बहुत बोलता हो -

- Ans ☒ 1. वाचाल
☒ 2. भूचाल
☒ 3. आंचल
☒ 4. अंचल

Question ID : 441009129933

Option 1 ID : 441009516135

Option 2 ID : 441009516136

Option 3 ID : 441009516138

Option 4 ID : 441009516137

Q.5 निम्न वाक्यांश के लिए सार्थक शब्द अंकित कीजिए।
अत्यधिक बढ़ा-चढ़ाकर कही गई बात -

- Ans ☒ 1. समासोक्ति
☒ 2. प्रयोक्ति
☒ 3. अन्योक्ति
☒ 4. अतिशयोक्ति

Question ID : 441009129944

Option 1 ID : 441009516175

Option 2 ID : 441009516178

Option 3 ID : 441009516177

Option 4 ID : 441009516176

Q.6 निम्नलिखित विकल्पों में सही वाक्य क्रम अंकित कीजिए।

- Ans ☒ 1. हो गई चाय ठंडी क्योंकि वह देर तक रखी रही।
☒ 2. चाय ठंडी क्योंकि हो गई वह देर तक रखी रही।
☒ 3. चाय ठंडी हो गई क्योंकि वह देर रखी रही तक।
☒ 4. चाय ठंडी हो गई क्योंकि वह देर तक रखी रही।

Question ID : 441009129884

Option 1 ID : 441009515944

Option 2 ID : 441009515946

Option 3 ID : 441009515943

Option 4 ID : 441009515945

Q.7 क्रिया के आधार पर वाक्य पूर्ण कीजिए।
मौका मिलते ही चोर भाग गया और लोग उसे _____।

- Ans
- ☒ 1. गा नहीं पाए
 - ☒ 2. पकड़ नहीं पाए
 - ☒ 3. लिख नहीं पाए
 - ☒ 4. खा नहीं पाए

Question ID : 441009129986
Option 1 ID : 441009516342
Option 2 ID : 441009516339
Option 3 ID : 441009516341
Option 4 ID : 441009516340

Q.8 'सधवा' का विलोम क्या है?

- Ans
- ☒ 1. कुमारी
 - ☒ 2. कुंवारी
 - ☒ 3. सुहागिन
 - ☒ 4. विधवा

Question ID : 441009130402
Option 1 ID : 441009518002
Option 2 ID : 441009518001
Option 3 ID : 441009517999
Option 4 ID : 441009518000

Q.9 वर्तनी के आधार पर शुद्ध वाक्य अंकित कीजिए।

- Ans
- ☒ 1. पेड़ हम ऑक्सीजन देते हैं।
 - ☒ 2. पेड़ हमें ऑक्सीजन देता हैं।
 - ☒ 3. पेड़ों हमें आक्सीजन देते हैं।
 - ☒ 4. पेड़ हमें ऑक्सीजन देते हैं।

Question ID : 441009130311
Option 1 ID : 441009517637
Option 2 ID : 441009517636
Option 3 ID : 441009517635
Option 4 ID : 441009517638

Q.10 वर्तनी के आधार पर शुद्ध वाक्य अंकित कीजिए।

- Ans
- ☒ 1. दानशीलता सबसे बड़ा गुण है।
 - ☒ 2. दानशीलता सबसे बड़ा गुण है।
 - ☒ 3. दानशीलता सबसे बड़ा गुना है।
 - ☒ 4. दानशीलता सबसे बड़ी गुण है।

Question ID : 441009130320
Option 1 ID : 441009517671
Option 2 ID : 441009517673
Option 3 ID : 441009517674
Option 4 ID : 441009517672

Q.11 क्रिया विशेषण के आधार पर वाक्य पूर्ण कीजिए।
परीक्षा में सफलता के लिए उसने _____ मेहनत की।

- Ans
- ☒ 1. यहाँ
 - ☒ 2. जहाँ
 - ☒ 3. अधिक
 - ☒ 4. वहाँ

Question ID : 441009130027
Option 1 ID : 441009516503
Option 2 ID : 441009516506
Option 3 ID : 441009516505
Option 4 ID : 441009516504

Q.12 निम्न मुहावरे का सही अर्थ अंकित कीजिए।
कलेजे पर पत्थर रखना -

- Ans
- ☒ 1. चुपचाप देखना
 - ☒ 2. चुपचाप सहन करना
 - ☒ 3. चुपचाप काम करना
 - ☒ 4. चुपचाप रहना

Question ID : 441009130090
Option 1 ID : 441009516757
Option 2 ID : 441009516755
Option 3 ID : 441009516758
Option 4 ID : 441009516756

Q.13 क्रिया विशेषण के आधार पर वाक्य पूर्ण कीजिए।
वह _____ सड़क पार कर रहा था।

- Ans
- ☒ 1. तेजी से
 - ☒ 2. हौले से
 - ☒ 3. निरंतर से
 - ☒ 4. तुरंत से

Question ID : 441009130033
Option 1 ID : 441009516530
Option 2 ID : 441009516527
Option 3 ID : 441009516529
Option 4 ID : 441009516528

Q.14 विशेषण के आधार पर वाक्य पूर्ण कीजिए।
बुजुर्गों को _____ और सुखी जीवन जीना चाहिए।

- Ans
- ☒ 1. स्वस्थ
 - ☒ 2. बलवान
 - ☒ 3. आकर्षक
 - ☒ 4. चंचल

Question ID : 441009130060
Option 1 ID : 441009516635
Option 2 ID : 441009516637
Option 3 ID : 441009516638
Option 4 ID : 441009516636

Q.15 क्रिया के आधार पर वाक्य पूर्ण कीजिए।

किसान खेत में खाना _____ रहा था ,जबकि बच्चे खेल रहे थे।

- Ans
- ☒ 1. रो
 - ☒ 2. पी
 - ☒ 3. गा
 - ☒ 4. खा

Question ID : 441009129999

Option 1 ID : 441009516393

Option 2 ID : 441009516394

Option 3 ID : 441009516391

Option 4 ID : 441009516392

Comprehension:

निम्न गद्यांश के आधार पर उत्तर दीजिए।

मैथिलीशरण गुप्त का जन्म 3 अगस्त 1886 को चिरगाँव, झाँसी, उत्तर प्रदेश में एक वैश्य परिवार में हुआ था। उनके पिता का नाम सेठ रामचरण और माता का नाम श्रीमती काशीबाई था। उनका झुकाव बचपन से ही साहित्य की ओर था। उन्होंने हिंदी को अपनी काव्य अभिव्यक्ति का माध्यम बनाया, जबकि उस समय ब्रजभाषा और अवधी का अधिक प्रचलन था। उनकी काव्य प्रतिभा को महावीर प्रसाद द्विवेदी ने प्रोत्साहित किया। राम भक्ति और काव्य की प्रतिभा उन्हें अपने पिता से विरासत में मिली थी, क्योंकि उनके पिता राम भक्त थे। मैथिलीशरण गुप्त हिंदी साहित्य के प्रसिद्ध कवि थे, जिन्हें "राष्ट्रकवि" की उपाधि दी गई। वे खड़ी बोली हिंदी के कवि माने जाते हैं। उनकी रचनाएँ राष्ट्रीय चेतना, सामाजिक सुधार और भारतीय संस्कृति से ओत-प्रोत हैं। गुप्त जी की कविताएँ सरल, सहज और भावनात्मक होती थी। उन्होंने अपनी रचनाओं में भारतीय संस्कृति, इतिहास और राष्ट्रभक्ति को प्रमुखता दी। उनकी भाषा खड़ी बोली होते हुए भी सहज और प्रभावशाली थी। उनकी प्रमुख कृतियाँ साकेत, यशोधरा, भारत-भारती, पंचवटी, और जयद्रथ वध हैं। 'भारत-भारती' कविता के माध्यम से भारतीय स्वतंत्रता संग्राम में लोगों में राष्ट्रीय चेतना जागृत करने का कार्य किया। साकेत में उन्होंने रामायण की कथा को उर्मिला के दृष्टिकोण से प्रस्तुत किया, जो उनकी नवीन दृष्टि को दर्शाता है। गुप्त जी की रचनाएँ राष्ट्रीयता से ओत-प्रोत थी। वे नारी शिक्षा, जाति सुधार और भारतीय संस्कृति के पुनर्जागरण के समर्थक थे। उन्होंने नारी जीवन के संघर्षों को भी अपनी कविता में स्थान दिया। मैथिलीशरण गुप्त हिंदी साहित्य के अमर कवि थे। उनकी कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं। उनका योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

SubQuestion No : 16

Q.16 निम्न विकल्पों में उपर्युक्त गद्यांश का सही सारांश चुनें।

- Ans
- ☒ 1. संत जी की रचनाएँ भारतीय संस्कृति के पुनर्जागरण, राष्ट्रीयता आदि से ओत-प्रोत थीं।
 - ☒ 2. पंत जी की रचनाएँ भारतीय संस्कृति के पुनर्जागरण, राष्ट्रीयता आदि से ओत-प्रोत थीं।
 - ☒ 3. प्रसाद जी की रचनाएँ भारतीय संस्कृति के पुनर्जागरण, राष्ट्रीयता आदि से ओत-प्रोत थीं।
 - ☒ 4. गुप्त जी की रचनाएँ भारतीय संस्कृति के पुनर्जागरण, राष्ट्रीयता आदि से ओत-प्रोत थीं।

Question ID : 441009129794

Option 1 ID : 441009515595

Option 2 ID : 441009515598

Option 3 ID : 441009515597

Option 4 ID : 441009515596

Comprehension:

निम्न गद्यांश के आधार पर उत्तर दीजिए।

मैथिलीशरण गुप्त का जन्म 3 अगस्त 1886 को चिरगाँव, झाँसी, उत्तर प्रदेश में एक वैश्य परिवार में हुआ था। उनके पिता का नाम सेठ रामचरण और माता का नाम श्रीमती काशीबाई था। उनका झुकाव बचपन से ही साहित्य की ओर था। उन्होंने हिंदी को अपनी काव्य अभिव्यक्ति का माध्यम बनाया, जबकि उस समय ब्रजभाषा और अवधी का अधिक प्रचलन था। उनकी काव्य प्रतिभा को महावीर प्रसाद द्विवेदी ने प्रोत्साहित किया। राम भक्ति और काव्य की प्रतिभा उन्हें अपने पिता से विरासत में मिली थी, क्योंकि उनके पिता राम भक्त थे। मैथिलीशरण गुप्त हिंदी साहित्य के प्रसिद्ध कवि थे, जिन्हें "राष्ट्रकवि" की उपाधि दी गई। वे खड़ी बोली हिंदी के कवि माने जाते हैं। उनकी रचनाएँ राष्ट्रीय चेतना, सामाजिक सुधार और भारतीय संस्कृति से ओत-प्रोत हैं। गुप्त जी की कविताएँ सरल, सहज और भावनात्मक होती थीं। उन्होंने अपनी रचनाओं में भारतीय संस्कृति, इतिहास और राष्ट्रभक्ति को प्रमुखता दी। उनकी भाषा खड़ी बोली होते हुए भी सहज और प्रभावशाली थी। उनकी प्रमुख कृतियाँ साकेत, यशोधरा, भारत-भारती, पंचवटी, और जयद्रथ वध हैं। 'भारत-भारती' कविता के माध्यम से भारतीय स्वतंत्रता संग्राम में लोगों में राष्ट्रीय चेतना जागृत करने का कार्य किया। साकेत में उन्होंने रामायण की कथा को उर्मिला के दृष्टिकोण से प्रस्तुत किया, जो उनकी नवीन दृष्टि को दर्शाता है।

गुप्त जी की रचनाएँ राष्ट्रीयता से ओत-प्रोत थीं। वे नारी शिक्षा, जाति सुधार और भारतीय संस्कृति के पुनर्जागरण के समर्थक थे। उन्होंने नारी जीवन के संघर्षों को भी अपनी कविता में स्थान दिया। मैथिलीशरण गुप्त हिंदी साहित्य के अमर कवि थे। उनकी कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं। उनका योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

SubQuestion No : 17

Q.17 उपर्युक्त गद्यांश में प्रयुक्त 'अतुलनीय' शब्द का विलोम चिह्नित कीजिए।

Ans ☒ 1. तुकबंदी

☒ 2. आंगतुक

☒ 3. तुलनीय

☒ 4. अंगद

Question ID : 441009129798

Option 1 ID : 441009515612

Option 2 ID : 441009515611

Option 3 ID : 441009515613

Option 4 ID : 441009515614

Comprehension:

निम्न गद्यांश के आधार पर उत्तर दीजिए।

मैथिलीशरण गुप्त का जन्म 3 अगस्त 1886 को चिरगाँव, झाँसी, उत्तर प्रदेश में एक वैश्य परिवार में हुआ था। उनके पिता का नाम सेठ रामचरण और माता का नाम श्रीमती काशीबाई था। उनका झुकाव बचपन से ही साहित्य की ओर था। उन्होंने हिंदी को अपनी काव्य अभिव्यक्ति का माध्यम बनाया, जबकि उस समय ब्रजभाषा और अवधी का अधिक प्रचलन था। उनकी काव्य प्रतिभा को महावीर प्रसाद द्विवेदी ने प्रोत्साहित किया। राम भक्ति और काव्य की प्रतिभा उन्हें अपने पिता से विरासत में मिली थी, क्योंकि उनके पिता राम भक्त थे। मैथिलीशरण गुप्त हिंदी साहित्य के प्रसिद्ध कवि थे, जिन्हें "राष्ट्रकवि" की उपाधि दी गई। वे खड़ी बोली हिंदी के कवि माने जाते हैं। उनकी रचनाएँ राष्ट्रीय चेतना, सामाजिक सुधार और भारतीय संस्कृति से ओत-प्रोत हैं। गुप्त जी की कविताएँ सरल, सहज और भावनात्मक होती थीं। उन्होंने अपनी रचनाओं में भारतीय संस्कृति, इतिहास और राष्ट्रभक्ति को प्रमुखता दी। उनकी भाषा खड़ी बोली होते हुए भी सहज और प्रभावशाली थी। उनकी प्रमुख कृतियाँ साकेत, यशोधरा, भारत-भारती, पंचवटी, और जयद्रथ वध हैं। 'भारत-भारती' कविता के माध्यम से भारतीय स्वतंत्रता संग्राम में लोगों में राष्ट्रीय चेतना जागृत करने का कार्य किया। साकेत में उन्होंने रामायण की कथा को उर्मिला के दृष्टिकोण से प्रस्तुत किया, जो उनकी नवीन दृष्टि को दर्शाता है।

गुप्त जी की रचनाएँ राष्ट्रीयता से ओत-प्रोत थीं। वे नारी शिक्षा, जाति सुधार और भारतीय संस्कृति के पुनर्जागरण के समर्थक थे। उन्होंने नारी जीवन के संघर्षों को भी अपनी कविता में स्थान दिया। मैथिलीशरण गुप्त हिंदी साहित्य के अमर कवि थे। उनकी कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं। उनका योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

SubQuestion No : 18

Q.18 निम्न विकल्पों में उपर्युक्त गद्यांश का सही निष्कर्ष पहचानें।

Ans ☒ 1. गुप्त की भाषा आज भी प्रेरणा देती है और हिंदी काव्य को नई दिशा प्रदान करती है।

☒ 2. गुप्त की संस्कृति आज भी प्रेरणा देती है और हिंदी काव्य को नई दिशा प्रदान करती है।

☒ 3. गुप्त का धर्म आज भी प्रेरणा देती है और हिंदी काव्य को नई दिशा प्रदान करती है।

☒ 4. गुप्त की कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं।

Question ID : 441009129795

Option 1 ID : 441009515603

Option 2 ID : 441009515605

Option 3 ID : 441009515604

Option 4 ID : 441009515606

Comprehension:

निम्न गद्यांश के आधार पर उत्तर दीजिए।

मैथिलीशरण गुप्त का जन्म 3 अगस्त 1886 को चिरगाँव, झाँसी, उत्तर प्रदेश में एक वैश्य परिवार में हुआ था। उनके पिता का नाम सेठ रामचरण और माता का नाम श्रीमती काशीबाई था। उनका झुकाव बचपन से ही साहित्य की ओर था। उन्होंने हिंदी को अपनी काव्य अभिव्यक्ति का माध्यम बनाया, जबकि उस समय ब्रजभाषा और अवधी का अधिक प्रचलन था। उनकी काव्य प्रतिभा को महावीर प्रसाद द्विवेदी ने प्रोत्साहित किया। राम भक्ति और काव्य की प्रतिभा उन्हें अपने पिता से विरासत में मिली थी, क्योंकि उनके पिता राम भक्त थे। मैथिलीशरण गुप्त हिंदी साहित्य के प्रसिद्ध कवि थे, जिन्हें "राष्ट्रकवि" की उपाधि दी गई। वे खड़ी बोली हिंदी के कवि माने जाते हैं। उनकी रचनाएँ राष्ट्रीय चेतना, सामाजिक सुधार और भारतीय संस्कृति से ओत-प्रोत हैं। गुप्त जी की कविताएँ सरल, सहज और भावनात्मक होती थीं। उन्होंने अपनी रचनाओं में भारतीय संस्कृति, इतिहास और राष्ट्रभक्ति को प्रमुखता दी। उनकी भाषा खड़ी बोली होते हुए भी सहज और प्रभावशाली थी। उनकी प्रमुख कृतियाँ साकेत, यशोधरा, भारत-भारती, पंचवटी, और जयद्रथ वध हैं। 'भारत-भारती' कविता के माध्यम से भारतीय स्वतंत्रता संग्राम में लोगों में राष्ट्रीय चेतना जागृत करने का कार्य किया। साकेत में उन्होंने रामायण की कथा को उर्मिला के दृष्टिकोण से प्रस्तुत किया, जो उनकी नवीन दृष्टि को दर्शाता है।

गुप्त जी की रचनाएँ राष्ट्रीयता से ओत-प्रोत थीं। वे नारी शिक्षा, जाति सुधार और भारतीय संस्कृति के पुनर्जागरण के समर्थक थे। उन्होंने नारी जीवन के संघर्षों को भी अपनी कविता में स्थान दिया। मैथिलीशरण गुप्त हिंदी साहित्य के अमर कवि थे। उनकी कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं। उनका योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

SubQuestion No : 19

Q.19 निम्न विकल्पों में उपर्युक्त गद्यांश के लिए उपयुक्त शीर्षक चुनें।

- Ans ☒ 1. राष्ट्र कवि मैथिलीशरण गुप्त
- ☒ 2. राज्य कवि मैथिलीशरण गुप्त
- ☒ 3. विश्व कवि मैथिलीशरण गुप्त
- ☒ 4. अंतर्राष्ट्रीय कवि मैथिलीशरण गुप्त

Question ID : 441009129800

Option 1 ID : 441009515621

Option 2 ID : 441009515620

Option 3 ID : 441009515622

Option 4 ID : 441009515619

Comprehension:

निम्न गद्यांश के आधार पर उत्तर दीजिए।

मैथिलीशरण गुप्त का जन्म 3 अगस्त 1886 को चिरगाँव, झाँसी, उत्तर प्रदेश में एक वैश्य परिवार में हुआ था। उनके पिता का नाम सेठ रामचरण और माता का नाम श्रीमती काशीबाई था। उनका झुकाव बचपन से ही साहित्य की ओर था। उन्होंने हिंदी को अपनी काव्य अभिव्यक्ति का माध्यम बनाया, जबकि उस समय ब्रजभाषा और अवधी का अधिक प्रचलन था। उनकी काव्य प्रतिभा को महावीर प्रसाद द्विवेदी ने प्रोत्साहित किया। राम भक्ति और काव्य की प्रतिभा उन्हें अपने पिता से विरासत में मिली थी, क्योंकि उनके पिता राम भक्त थे। मैथिलीशरण गुप्त हिंदी साहित्य के प्रसिद्ध कवि थे, जिन्हें "राष्ट्रकवि" की उपाधि दी गई। वे खड़ी बोली हिंदी के कवि माने जाते हैं। उनकी रचनाएँ राष्ट्रीय चेतना, सामाजिक सुधार और भारतीय संस्कृति से ओत-प्रोत हैं। गुप्त जी की कविताएँ सरल, सहज और भावनात्मक होती थीं। उन्होंने अपनी रचनाओं में भारतीय संस्कृति, इतिहास और राष्ट्रभक्ति को प्रमुखता दी। उनकी भाषा खड़ी बोली होते हुए भी सहज और प्रभावशाली थी। उनकी प्रमुख कृतियाँ साकेत, यशोधरा, भारत-भारती, पंचवटी, और जयद्रथ वध हैं। 'भारत-भारती' कविता के माध्यम से भारतीय स्वतंत्रता संग्राम में लोगों में राष्ट्रीय चेतना जागृत करने का कार्य किया। साकेत में उन्होंने रामायण की कथा को उर्मिला के दृष्टिकोण से प्रस्तुत किया, जो उनकी नवीन दृष्टि को दर्शाता है।

गुप्त जी की रचनाएँ राष्ट्रीयता से ओत-प्रोत थीं। वे नारी शिक्षा, जाति सुधार और भारतीय संस्कृति के पुनर्जागरण के समर्थक थे। उन्होंने नारी जीवन के संघर्षों को भी अपनी कविता में स्थान दिया। मैथिलीशरण गुप्त हिंदी साहित्य के अमर कवि थे। उनकी कृतियाँ आज भी प्रेरणा देती हैं और हिंदी काव्य को नई दिशा प्रदान करती हैं। उनका योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

SubQuestion No : 20

Q.20 निम्न विकल्पों में उपर्युक्त गद्यांश का केंद्रीय विषय पहचानें।

- Ans ☒ 1. मैथिलीशरण गुप्त का योगदान संस्कृत साहित्य और राष्ट्रीय चेतना में अतुलनीय है।
- ☒ 2. मैथिलीशरण गुप्त का योगदान पालि साहित्य और राष्ट्रीय चेतना में अतुलनीय है।
- ☒ 3. मैथिलीशरण गुप्त का योगदान हिंदी साहित्य और राष्ट्रीय चेतना में अतुलनीय है।
- ☒ 4. मैथिलीशरण गुप्त का योगदान विश्व साहित्य और राष्ट्रीय चेतना में अतुलनीय है।

Question ID : 441009129799

Option 1 ID : 441009515617

Option 2 ID : 441009515618

Option 3 ID : 441009515615

Option 4 ID : 441009515616

Q.1 Complete the analogy by selecting the correct term to describe the Bronsted-Lowry base.

Arrhenius base : OH^- donor :: Bronsted-Lowry base : _____.

- Ans ☒ 1. Proton acceptor
☒ 2. Electron donor
☒ 3. Proton donor
☒ 4. OH^- donor

Question ID : 441009110818
Option 1 ID : 441009440863
Option 2 ID : 441009440864
Option 3 ID : 441009440862
Option 4 ID : 441009440865

Q.2 What is the equivalent weight of sulphuric acid (H_2SO_4) in the reaction where it acts as an acid?

- Ans ☒ 1. 24.5 g/mol
☒ 2. 98 g/mol
☒ 3. 49 g/mol
☒ 4. 196 g/mol

Question ID : 441009111072
Option 1 ID : 441009441881
Option 2 ID : 441009441879
Option 3 ID : 441009441878
Option 4 ID : 441009441880

Q.3 What is the empirical formula of a compound that contains 40% sulphur and 60% oxygen by mass? (Molar mass of sulphur = 32 g/mol, oxygen = 16 g/mol)

- Ans ☒ 1. S_2O_3
☒ 2. SO_3
☒ 3. SO_2
☒ 4. SO

Question ID : 441009111184
Option 1 ID : 441009442328
Option 2 ID : 441009442329
Option 3 ID : 441009442327
Option 4 ID : 441009442326

Q.4 Which of the following statements are NOT true regarding the probability distribution curve of the 3d orbital?

- A. The probability density curve of a 3d orbital shows three nodal planes passing through the nucleus.
B. The radial probability distribution curve of a 3d orbital has one radial node.
C. The 3d orbital's probability density is zero at the nucleus.
D. The 3d orbital has three angular nodes.

- Ans ☒ 1. Only B and C
☒ 2. Only A and B
☒ 3. Only A and D
☒ 4. A, B and D

Question ID : 441009110882
Option 1 ID : 441009441118
Option 2 ID : 441009441119
Option 3 ID : 441009441120
Option 4 ID : 441009441121

Q.5 Which of the following is necessary for Bragg diffraction to occur?

- Ans ☒ 1. A periodic arrangement of atoms
- ☒ 2. A completely amorphous material
- ☒ 3. A liquid with short-range order
- ☒ 4. A single isolated atom

Question ID : 441009111064

Option 1 ID : 441009441848

Option 2 ID : 441009441847

Option 3 ID : 441009441849

Option 4 ID : 441009441846

Q.6 A 15 L container holds a mixture of three ideal gases: hydrogen (H_2), helium (He), and neon (Ne) gases at a total pressure of 5 atm and a temperature of 300 K. The mixture contains 0.5 moles of H_2 , 1 mole of He, and 0.5 moles of Ne. Assuming the gases DO NOT react with each other, what is the partial pressure of helium in the container?

- Ans ☒ 1. 2.5 atm
- ☒ 2. 2.0 atm
- ☒ 3. 1.25 atm
- ☒ 4. 3.0 atm

Question ID : 441009111168

Option 1 ID : 441009442264

Option 2 ID : 441009442263

Option 3 ID : 441009442262

Option 4 ID : 441009442265

Q.7 The mass percentage composition of three gases in a gas mixture is approximately CO_2 : 60% , SO_2 : 30% , NO_2 : 10%. If the total pressure in the container is 3.00 atm, what is the partial pressure of SO_2 in the mixture?
(Molar masses: CO_2 = 44 g/mol, SO_2 = 64 g/mol, NO_2 = 46 g/mol)

- Ans ☒ 1. 0.90 atm
- ☒ 2. 1.35 atm
- ☒ 3. 1.25 atm
- ☒ 4. 0.69 atm

Question ID : 441009110896

Option 1 ID : 441009441174

Option 2 ID : 441009441176

Option 3 ID : 441009441177

Option 4 ID : 441009441175

Q.8 Which of the following postulates of Dalton's Atomic Theory was later found to be INCORRECT?

- Ans ☒ 1. Atoms cannot be subdivided, created or destroyed.
- ☒ 2. Atoms of the same element are not identical in mass and properties.
- ☒ 3. Compounds are formed by a combination of atoms of two or more elements.
- ☒ 4. Chemical reactions involve the rearrangement of atoms.

Question ID : 441009111058

Option 1 ID : 441009441823

Option 2 ID : 441009441822

Option 3 ID : 441009441825

Option 4 ID : 441009441824

Q.9 Which of the following statements is/are correct about the Quantum Mechanical Model of the atom?

Statements:

I: Electrons are described by wave functions that define regions of probability rather than specific orbits.

II: The position and momentum of an electron cannot be precisely measured simultaneously.

III: Electrons orbit the nucleus in fixed circular paths with quantised energy levels.

Ans ☒ 1. Statements I and II are correct.

☐ 2. Only statement II is correct.

☐ 3. Only statement I is correct.

☐ 4. Statements I, II and III are correct.

Question ID : 441009110884

Option 1 ID : 441009441128

Option 2 ID : 441009441127

Option 3 ID : 441009441126

Option 4 ID : 441009441129

Q.10 What is the equivalent weight of sulphuric acid (H_2SO_4) when it acts as an acid in a reaction?

Ans ☐ 1. 196 g/equivalent

☐ 2. 24.5 g/equivalent

☐ 3. 98 g/equivalent

☒ 4. 49 g/equivalent

Question ID : 441009110899

Option 1 ID : 441009441189

Option 2 ID : 441009441188

Option 3 ID : 441009441187

Option 4 ID : 441009441186

Q.11 For a given real gas, the Van der Waals constants are: $a = 5.6 \text{ atm L}^2 \text{ mol}^{-2}$ and $b = 0.07 \text{ L mol}^{-1}$. At a temperature of 250 K and a volume of 4 L, calculate the pressure of the gas using the Van der Waals equation.

Ans ☒ 1. 4.87 atm

☐ 2. 5.57 atm

☐ 3. 5.39 atm

☐ 4. 4.50 atm

Question ID : 441009111166

Option 1 ID : 441009442254

Option 2 ID : 441009442257

Option 3 ID : 441009442256

Option 4 ID : 441009442255

Q.12 For a set of 3p orbitals, if two electrons are to be added, how will they be arranged according to Hund's Rule?

Ans ☐ 1. Both electrons will occupy the same 3p orbital with opposite spins.

☐ 2. Both electrons will occupy the same 3p orbital with parallel spins.

☒ 3. Both electrons will occupy two different 3p orbitals with parallel spins.

☐ 4. Both electrons will occupy two different 3p orbitals with opposite spins.

Question ID : 441009111161

Option 1 ID : 441009442234

Option 2 ID : 441009442235

Option 3 ID : 441009442237

Option 4 ID : 441009442236

Q.13 How many unpaired electrons are present in the electronic configuration of Ni ($Z = 28$), according to Hund's Rule?

- Ans
- ☐ 1. 0 electrons
 - ☐ 2. Only 1 electron
 - ☐ 3. Only 3 electrons
 - ☒ 4. Only 2 electrons

Question ID : 441009110887
Option 1 ID : 441009441138
Option 2 ID : 441009441139
Option 3 ID : 441009441141
Option 4 ID : 441009441140

Q.14 In an AB-type crystal, it was found that an equal number of cationic and anionic vacancies are present, resulting in a decrease in density while maintaining electrical neutrality. Identify the defect.

- Ans
- ☐ 1. Frenkel defect
 - ☐ 2. Vacancy defect
 - ☒ 3. Schottky defect
 - ☐ 4. Interstitial defect

Question ID : 441009110889
Option 1 ID : 441009441146
Option 2 ID : 441009441148
Option 3 ID : 441009441149
Option 4 ID : 441009441147

Q.15 Read the given statements and select the most appropriate option.

Statements:

I.) An empirical formula represents the simplest whole number ratio of various atoms present in a compound.

II.) The molecular formula shows the exact number of different types of atoms present in a molecule of a compound.

- Ans
- ☐ 1. Statement-I is false but Statement-II is true.
 - ☐ 2. Both the statements are false.
 - ☒ 3. Both the statements are true.
 - ☐ 4. Statement-I is true but Statement-II is false.

Question ID : 441009124001
Option 1 ID : 441009492910
Option 2 ID : 441009492908
Option 3 ID : 441009492907
Option 4 ID : 441009492909

Q.16 If a reaction yields 0.25 moles of water, how many grams of hydrogen gas were used assuming complete reaction with oxygen?

- Ans
- ☒ 1. 0.50 grams
 - ☐ 2. 0.25 grams
 - ☐ 3. 2.0 grams
 - ☐ 4. 1.0 grams

Question ID : 441009110900
Option 1 ID : 441009441191
Option 2 ID : 441009441190
Option 3 ID : 441009441193
Option 4 ID : 441009441192

Q.17 According to the kinetic molecular theory of gases, which of the following is INCORRECT for an ideal gas?

- Ans ☒ 1. The average kinetic energy of gas molecules is directly proportional to the absolute temperature.
- ☒ 2. Gas molecules exert attractive forces on each other.
- ☒ 3. Gas molecules have negligible volume compared to the container's volume.
- ☒ 4. Collisions between gas molecules are perfectly elastic.

Question ID : 441009111068
Option 1 ID : 441009441864
Option 2 ID : 441009441863
Option 3 ID : 441009441862
Option 4 ID : 441009441865

Q.18 Which of the following best describes the relationship between the temperature of a gas and the average kinetic energy of its molecules?

- Ans ☒ 1. The average kinetic energy of gas molecules is inversely proportional to the temperature of the gas.
- ☒ 2. The average kinetic energy of gas molecules is independent of the temperature.
- ☒ 3. The average kinetic energy of gas molecules decreases as the temperature increases.
- ☒ 4. The average kinetic energy of gas molecules is directly proportional to the temperature of the gas.

Question ID : 441009110895
Option 1 ID : 441009441173
Option 2 ID : 441009441171
Option 3 ID : 441009441170
Option 4 ID : 441009441172

Q.19 Which of the following conditions is associated with the presence of Frenkel defects in ionic compounds?

- Ans ☒ 1. The size of the anion is bigger than the size of the cation.
- ☒ 2. The size of the cation is bigger than the size of the anion.
- ☒ 3. The sizes of the cation and anion are almost equal.
- ☒ 4. The coordination number is high.

Question ID : 441009110556
Option 1 ID : 441009439816
Option 2 ID : 441009439817
Option 3 ID : 441009439814
Option 4 ID : 441009439815

Q.20 In the Van der Waals equation, $(P + a/V_m^2)(V_m - b) = nRT$, the constant "b" accounts for:

- Ans ☒ 1. the pressure correction due to intermolecular forces
- ☒ 2. the finite volume of gas molecules
- ☒ 3. the increase in temperature
- ☒ 4. the attractive forces between gas molecules

Question ID : 441009111067
Option 1 ID : 441009441859
Option 2 ID : 441009441860
Option 3 ID : 441009441861
Option 4 ID : 441009441858

Q.1 Which of the following interactions is primarily responsible for the stabilisation of macromolecular colloids in aqueous solutions?

- Ans ☒ 1. Hydrogen bonding and steric stabilisation
☒ 2. Metallic bonding
☒ 3. Ionic bonding
☒ 4. Coordination bond

Question ID : 441009111000
Option 1 ID : 441009441590
Option 2 ID : 441009441592
Option 3 ID : 441009441591
Option 4 ID : 441009441593

Q.2 Macromolecular colloids are generally formed by which of the following types of molecules?

- Ans ☒ 1. Proteins and polymers
☒ 2. Metal ions
☒ 3. Small ions
☒ 4. Simple hydrocarbons

Question ID : 441009111001
Option 1 ID : 441009441594
Option 2 ID : 441009441595
Option 3 ID : 441009441597
Option 4 ID : 441009441596

Q.3 In the Freundlich isotherm, the validity of the isotherm is often checked using a plot of:

- Ans ☒ 1. $\left(\frac{1}{X}\right)$ vs (P)
☒ 2. $\log\left(\frac{x}{m}\right)$ vs $\log(P)$
☒ 3. $\log\left(\frac{x}{m}\right)$ vs $\frac{1}{P}$
☒ 4. $\left(\frac{x}{m}\right)$ vs $\log\left(\frac{1}{P}\right)$

Question ID : 441009110877
Option 1 ID : 441009441101
Option 2 ID : 441009441100
Option 3 ID : 441009441098
Option 4 ID : 441009441099

Q.4 In the context of enzyme catalysis, which theory suggests that the active site of an enzyme changes its shape to fit the substrate?

- Ans ☒ 1. Induced fit theory
☒ 2. Ligand theory
☒ 3. Adsorption theory
☒ 4. Transition state theory

Question ID : 441009111006
Option 1 ID : 441009441614
Option 2 ID : 441009441617
Option 3 ID : 441009441615
Option 4 ID : 441009441616

Q.5 Which of the following is NOT a correct representation of pH?

- Ans
- ☐ 1. $[\text{H}_3\text{O}^+] = 10^{-\text{pH}}$
 - ☒ 2. $[\text{OH}^-] = 10^{\text{pH}}$
 - ☐ 3. $\text{pH} = -\log [\text{H}_3\text{O}^+]$
 - ☐ 4. $\text{pH} = 14 - \text{pOH}$

Question ID : 441009110922

Option 1 ID : 441009441278

Option 2 ID : 441009441281

Option 3 ID : 441009441279

Option 4 ID : 441009441280

Q.6 A sparingly soluble salt M_3X_2 has a solubility product $K_{\text{sp}} = 1.08 \times 10^{-7}$

7. Calculate the concentration of M^{2+} ions in a saturated solution.

- Ans
- ☐ 1. $\sqrt[5]{10^{-9}}$
 - ☐ 2. 0.36×10^{-7}
 - ☐ 3. $3 \times 1.08 \times 10^{-7}$
 - ☒ 4. $3 \times \sqrt[5]{10^{-9}}$

Question ID : 441009110819

Option 1 ID : 441009440867

Option 2 ID : 441009440869

Option 3 ID : 441009440868

Option 4 ID : 441009440866

Q.7 In the hydrolysis of aluminum sulphate ($\text{Al}_2(\text{SO}_4)_3$), if the aluminum ion (Al^{3+}) reacts with water, what will be the likely effect on the pH of the solution?

- Ans
- ☐ 1. The solution will become basic.
 - ☐ 2. The solution will remain neutral.
 - ☒ 3. The solution will become acidic.
 - ☐ 4. The solution will have no effect on pH.

Question ID : 441009110815

Option 1 ID : 441009440850

Option 2 ID : 441009440851

Option 3 ID : 441009440852

Option 4 ID : 441009440853

Q.8 Which assumption is fundamental to the Langmuir isotherm model?

- Ans
- ☒ 1. Adsorption is limited to a monolayer.
 - ☐ 2. Multilayer adsorption occurs.
 - ☐ 3. Adsorption occurs at heterogeneous sites on the surface.
 - ☐ 4. Adsorption energy increases with surface coverage.

Question ID : 441009111007

Option 1 ID : 441009441620

Option 2 ID : 441009441619

Option 3 ID : 441009441618

Option 4 ID : 441009441621

Q.9 According to Le Chatelier's principle, how will a rise in temperature affect an equilibrium reaction if the forward reaction is endothermic?

- Ans
- ☐ 1. The reaction will stop.
 - ☐ 2. The equilibrium will shift towards the reactants.
 - ☐ 3. The equilibrium will not be affected.
 - ☒ 4. The equilibrium will shift towards the products.

Question ID : 441009111024
Option 1 ID : 441009441689
Option 2 ID : 441009441686
Option 3 ID : 441009441688
Option 4 ID : 441009441687

Q.10 The Tyndall effect is most prominently observed in which type of colloidal system?

- Ans
- ☐ 1. Suspension
 - ☒ 2. Lyophilic colloids
 - ☐ 3. Tyndall effect
 - ☐ 4. Water

Question ID : 441009111005
Option 1 ID : 441009441611
Option 2 ID : 441009441610
Option 3 ID : 441009441612
Option 4 ID : 441009441613

Q.11 Which type of luminescence emits light almost immediately after excitation and stops quickly when the source is removed?

- Ans
- ☐ 1. Bioluminescence
 - ☒ 2. Fluorescence
 - ☐ 3. Phosphorescence
 - ☐ 4. Chemiluminescence

Question ID : 441009111098
Option 1 ID : 441009441985
Option 2 ID : 441009441983
Option 3 ID : 441009441982
Option 4 ID : 441009441984

Q.12 Who introduced the term 'sorption'?

- Ans
- ☐ 1. Thomas Graham
 - ☒ 2. James William McBain
 - ☐ 3. Svante Arrhenius
 - ☐ 4. Herbert Freundlich

Question ID : 441009110881
Option 1 ID : 441009441116
Option 2 ID : 441009441117
Option 3 ID : 441009441115
Option 4 ID : 441009441114

Q.13 Why is high surface area important for heterogeneous catalysts?

- Ans
- ☒ 1. It increases the catalyst's thermal stability.
 - ☒ 2. It reduces the need for reactant molecules.
 - ☒ 3. It provides more active sites for reactions.
 - ☒ 4. It alters the catalyst's chemical structure.

Question ID : 441009110876

Option 1 ID : 441009441094

Option 2 ID : 441009441097

Option 3 ID : 441009441095

Option 4 ID : 441009441096

Q.14 Given the following pK_a values for different acids, arrange them in descending order of their acidic strength.

Benzoic acid (C_6H_5COOH): $pK_a = 4.19$

Acetic acid (CH_3COOH): $pK_a = 4.75$

Formic acid ($HCOOH$): $pK_a = 3.75$

- Ans
- ☒ 1. Formic acid > Acetic acid > Benzoic acid
 - ☒ 2. Benzoic acid > Formic acid > Acetic acid
 - ☒ 3. Acetic acid > Benzoic acid > Formic acid
 - ☒ 4. Formic acid > Benzoic acid > Acetic acid

Question ID : 441009110817

Option 1 ID : 441009440860

Option 2 ID : 441009440859

Option 3 ID : 441009440861

Option 4 ID : 441009440858

Q.15 Match the following colloidal systems (column I) with their correct type of colloid (Column II).

	Colloidal system		Type of colloid
(i)	Smoke	(a)	Solid sol
(ii)	Milk	(b)	Solid foam
(iii)	Pumice stone	(c)	Aerosol
(iv)	Ruby glass	(d)	Emulsion

- Ans
- ☒ 1. (i)-(c); (ii)-(b); (iii)-(a); (iv)-(d)
 - ☒ 2. (i)-(b); (ii)-(d); (iii)-(a); (iv)-(c)
 - ☒ 3. (i)-(b); (ii)-(c); (iii)-(d); (iv)-(a)
 - ☒ 4. (i)-(c); (ii)-(d); (iii)-(b); (iv)-(a)

Question ID : 441009110875

Option 1 ID : 441009441090

Option 2 ID : 441009441092

Option 3 ID : 441009441091

Option 4 ID : 441009441093

Q.16 In qualitative analysis, Group III cations (Al^{3+} , Fe^{3+} , Cr^{3+}) are precipitated as hydroxides by adding NH_4OH to their salt solutions containing NH_4Cl . Which of the following statements is/are correct?

- A) The common ion effect of $[\text{OH}^-]$ in basic medium helps maintain a high concentration of $[\text{OH}^-]$, which facilitates the precipitation of Group III cations.
B) Group III cations require higher concentrations of $[\text{OH}^-]$ to precipitate compared to cations of higher groups because of their higher K_{sp} values.
C) Group III cations precipitate as hydroxides because their K_{sp} values are low enough to allow precipitation at low $[\text{OH}^-]$ concentrations.
D) The presence of NH_4^+ ions in the solution suppresses the degree of dissociation of NH_4OH , thus reducing $[\text{OH}^-]$ ions and promoting the precipitation of Group III cations.

- Ans ☒ 1. Only D
☒ 2. Both C and D
☒ 3. Both A and B
☒ 4. Only A

Question ID : 441009110822
Option 1 ID : 441009440879
Option 2 ID : 441009440881
Option 3 ID : 441009440880
Option 4 ID : 441009440878

Q.17 The pH of a strong acid is calculated by assuming that $[\text{H}_3\text{O}^+]$ is equal to (HA represents concentration of that acid):

- Ans ☒ 1. $\frac{1}{[\text{HA}]_{\text{Initial}}}$
☒ 2. $[\text{HA}]_{\text{Initial}}$
☒ 3. $[\text{OH}^-]$
☒ 4. $\frac{[\text{HA}]_{\text{Initial}}}{[\text{H}_3\text{O}^+]}$

Question ID : 441009110816
Option 1 ID : 441009440856
Option 2 ID : 441009440855
Option 3 ID : 441009440854
Option 4 ID : 441009440857

Q.18 Which of the following statements regarding the dispersion method of preparing colloidal solutions are correct?

- A) Bredig's arc method uses an electric arc to disperse metal into colloidal form.
- B) Peptisation involves adding an electrolyte to convert a precipitate into colloidal particles.
- C) The mechanical dispersion method typically requires high temperatures and pressures to be effective.
- D) Ultrasonic waves can break down large particles into colloidal-sized particles.

Ans ☒ 1. Only A and B

☒ 2. A, B and C

☒ 3. Only B and D

☒ 4. A, B and D

Question ID : 441009110873

Option 1 ID : 441009441082

Option 2 ID : 441009441084

Option 3 ID : 441009441083

Option 4 ID : 441009441085

Q.19 Which of the following statements is NOT correct regarding Ostwald's Dilution Law?

Ans ☒ 1. The degree of dissociation (α) of a weak electrolyte increases with an increase in the concentration of the electrolyte.

☒ 2. For a weak acid, the degree of dissociation (α) can be expressed as $\alpha = (K_a/C)^{1/2}$, where K_a is the dissociation constant and C is the concentration of the acid.

☒ 3. Ostwald's Dilution Law is applicable to weak electrolytes in dilute solutions.

☒ 4. Ostwald's Dilution Law does not apply to strong electrolytes because they dissociate completely in solution.

Question ID : 441009110823

Option 1 ID : 441009440882

Option 2 ID : 441009440885

Option 3 ID : 441009440883

Option 4 ID : 441009440884

Q.20 Physical adsorption can be distinguished from chemical adsorption by:

Ans ☒ 1. the formation of monolayers only

☒ 2. occurring at low temperatures and being reversible

☒ 3. a high activation energy requirement

☒ 4. a slow rate of adsorption

Question ID : 441009111008

Option 1 ID : 441009441622

Option 2 ID : 441009441624

Option 3 ID : 441009441625

Option 4 ID : 441009441623

Section : Discipline3

Q.1 What is the oxidation state of hydrogen in sodium hydride (NaH) and aluminum hydride (AlH₃)?

- Ans
- ☒ 1. +1 in both
 - ☒ 2. -1 in NaH and -3 in AlH₃
 - ☒ 3. -1 in both
 - ☒ 4. Zero in both

Question ID : 441009110814
Option 1 ID : 441009440846
Option 2 ID : 441009440849
Option 3 ID : 441009440847
Option 4 ID : 441009440848

Q.2 According to Raoult's Law, what happens to the vapour pressure of a solvent when a non-volatile solute is added?

- Ans
- ☒ 1. It remains unchanged.
 - ☒ 2. It becomes equal to the vapour pressure of the solute.
 - ☒ 3. It decreases.
 - ☒ 4. It increases.

Question ID : 441009111092
Option 1 ID : 441009441960
Option 2 ID : 441009441961
Option 3 ID : 441009441959
Option 4 ID : 441009441958

Q.3 During electrolysis, a current deposits 54 g of copper (atomic mass = 64) from a copper sulphate solution. Using the same amount of electricity, how much nickel (atomic mass = 59) would be deposited from a nickel sulphate solution?

- Ans
- ☒ 1. 39.5 g
 - ☒ 2. 49.8 g
 - ☒ 3. 64 g
 - ☒ 4. 54 g

Question ID : 441009110809
Option 1 ID : 441009440829
Option 2 ID : 441009440826
Option 3 ID : 441009440828
Option 4 ID : 441009440827

Q.4 Sorbates and benzoates are commonly used as _____.

- Ans
- ☒ 1. coloring agents
 - ☒ 2. food preservatives
 - ☒ 3. analgesics
 - ☒ 4. sedatives

Question ID : 441009110696
Option 1 ID : 441009440374
Option 2 ID : 441009440375
Option 3 ID : 441009440377
Option 4 ID : 441009440376

Q.5 Which of the following is NOT a correct method of calculating the EMF of a cell?

(EMF is electromotive force or cell potential.)

- Ans
- ☒ 1. $E_{\text{cell}}^{\circ} = E_{\text{ox}}^{\circ} (\text{anode}) + E_{\text{red}}^{\circ} (\text{cathode})$
 - ☒ 2. $E_{\text{cell}}^{\circ} = E_{\text{red}}^{\circ} (\text{cathode}) - E_{\text{red}}^{\circ} (\text{anode})$
 - ☒ 3. $E_{\text{cell}}^{\circ} = E_{\text{ox}}^{\circ} (\text{anode}) - E_{\text{ox}}^{\circ} (\text{cathode})$
 - ☒ 4. $E_{\text{cell}}^{\circ} = E_{\text{ox}}^{\circ} (\text{anode}) - E_{\text{red}}^{\circ} (\text{cathode})$

Question ID : 441009110811

Option 1 ID : 441009440834

Option 2 ID : 441009440835

Option 3 ID : 441009440836

Option 4 ID : 441009440837

Q.6 Complete the analogy by selecting the correct term to describe the oxidation number.

Neutral molecules : Zero :: Polyatomic ions : _____

- Ans
- ☒ 1. The oxidation state of the central atom
 - ☒ 2. Zero
 - ☒ 3. The number of atoms
 - ☒ 4. The net charge on the ion

Question ID : 441009110919

Option 1 ID : 441009441269

Option 2 ID : 441009441266

Option 3 ID : 441009441267

Option 4 ID : 441009441268

Q.7 Given the following standard electrode potentials (E°), which metal acts as the strongest reducing agent?

- Ans
- ☒ 1. Cu^{2+}/Cu , $E^{\circ} = +0.34 \text{ V}$
 - ☒ 2. Fe^{2+}/Fe , $E^{\circ} = -0.44 \text{ V}$
 - ☒ 3. Zn^{2+}/Zn , $E^{\circ} = -0.76 \text{ V}$
 - ☒ 4. Al^{3+}/Al , $E^{\circ} = -1.66 \text{ V}$

Question ID : 441009110918

Option 1 ID : 441009441265

Option 2 ID : 441009441264

Option 3 ID : 441009441263

Option 4 ID : 441009441262

Q.8 Which of the following molecular orbitals have similar energies?

- Ans
- ☒ 1. σ (sigma) bonding and π^* (pi star) antibonding orbitals
 - ☒ 2. Bonding and antibonding orbitals
 - ☒ 3. σ (sigma) and π (pi) bonding orbitals
 - ☒ 4. Degenerate π (pi) bonding orbitals

Question ID : 441009110847

Option 1 ID : 441009440981

Option 2 ID : 441009440978

Option 3 ID : 441009440979

Option 4 ID : 441009440980

Q.9 Which of the following statements accurately describes the impact of activation energy and temperature on the rate constant according to the Arrhenius equation?

- Ans
- ☒ 1. The activation energy of a reaction decreases when a catalyst is used, resulting in a higher rate constant for the reaction.
 - ☒ 2. A higher activation energy always leads to a higher reaction rate, regardless of temperature.
 - ☒ 3. Increasing temperature generally increases the rate constant, and the extent of this increase depends on the activation energy.
 - ☒ 4. The rate of a reaction is directly proportional to the energy of the reactant molecules, regardless of the presence of a catalyst.

Question ID : 441009111094

Option 1 ID : 441009441966

Option 2 ID : 441009441969

Option 3 ID : 441009441968

Option 4 ID : 441009441967

Q.10 For the molecule ClF_3 what is the hybridisation of the central chlorine atom and the resulting geometry?

- Ans
- ☒ 1. Hybridisation: sp^3d ; Geometry: Trigonal bipyramidal
 - ☒ 2. Hybridisation: sp^3d^2 ; Geometry: Octahedral
 - ☒ 3. Hybridisation: sp^3 ; Geometry: Tetrahedral
 - ☒ 4. Hybridisation: sp^2d ; Geometry: T-shaped

Question ID : 441009110927

Option 1 ID : 441009441300

Option 2 ID : 441009441299

Option 3 ID : 441009441301

Option 4 ID : 441009441298

Q.11 In Dexter energy transfer, the efficiency of energy transfer is inversely proportional to:

- Ans
- ☒ 1. mass
 - ☒ 2. distance
 - ☒ 3. current
 - ☒ 4. volume

Question ID : 441009110947

Option 1 ID : 441009441381

Option 2 ID : 441009441378

Option 3 ID : 441009441379

Option 4 ID : 441009441380

Q.12 Calculate the limiting molar conductivity of the anion X^- and the degree of dissociation of HX at 0.001 M from the given data.

- The limiting molar conductivity of H^+ : $349.6 \text{ S cm}^2 \text{ mol}^{-1}$
- The specific conductance of a 0.001 M solution of HX is $2.5 \times 10^{-4} \text{ S cm}^{-1}$
- The limiting molar conductivity of HX is $470 \text{ S cm}^2 \text{ mol}^{-1}$

- Ans
- ☒ 1. Limiting molar conductivity of X^- : $120.4 \text{ S cm}^2 \text{ mol}^{-1}$, Degree of dissociation: 0.45
 - ☒ 2. Limiting molar conductivity of X^- : $120.4 \text{ S cm}^2 \text{ mol}^{-1}$, Degree of dissociation: 0.53
 - ☒ 3. Limiting molar conductivity of X^- : $349.6 \text{ S cm}^2 \text{ mol}^{-1}$, Degree of dissociation: 0.53
 - ☒ 4. Limiting molar conductivity of X^- : $120.4 \text{ S cm}^2 \text{ mol}^{-1}$, Degree of dissociation: 0.60

Question ID : 441009110804

Option 1 ID : 441009440807

Option 2 ID : 441009440806

Option 3 ID : 441009440809

Option 4 ID : 441009440808

Q.13 Determine the concentration of Cu^{2+} ion (denoted by X) in the given electrochemical cell.

$\text{Mg}, \text{Mg}^{2+} (0.1\text{M}) \text{Cu}^{2+} (\text{X}), \text{Cu}$

Given at 25°C : $E_{\text{cell}} = 2.65 \text{ V}$ and $E^\circ_{\text{cell}} = 2.71 \text{ V}$.

(For simplicity, assume $\log 100 \approx 2$. No antilog calculations are required—round off logarithmic results as needed.)

- Ans
- ☒ 1. $1 \times 10^{-3} \text{ M}$
 - ☐ 2. $0.8 \times 10^{-3} \text{ M}$
 - ☐ 3. $1.10 \times 10^{-3} \text{ M}$
 - ☐ 4. $8.3 \times 10^{-4} \text{ M}$

Question ID : 441009110810
Option 1 ID : 441009440830
Option 2 ID : 441009440833
Option 3 ID : 441009440831
Option 4 ID : 441009440832

Q.14 Normality is used to express the concentration of a solution based on:

- Ans
- ☐ 1. mole fraction of the solute in the solution
 - ☐ 2. moles of solute per kilogram of solvent
 - ☒ 3. equivalents of solute per litre of solution
 - ☐ 4. moles of solute per litre of solution

Question ID : 441009110857
Option 1 ID : 441009441021
Option 2 ID : 441009441020
Option 3 ID : 441009441019
Option 4 ID : 441009441018

Q.15 A solution is prepared by adding 3 g of a non-volatile solute (60 g/mol) to 5 g of a volatile solvent (molecular mass = 70 g/mol). The vapour pressure of the pure solvent is 400 mm Hg. What is the total vapour pressure of the solution?

- Ans
- ☒ 1. 233 mm Hg
 - ☐ 2. 225 mm Hg
 - ☐ 3. 250 mm Hg
 - ☐ 4. 400 mm Hg

Question ID : 441009110855
Option 1 ID : 441009441010
Option 2 ID : 441009441013
Option 3 ID : 441009441011
Option 4 ID : 441009441012

Q.16 Which of the following is the correct form of the Nernst equation at 298 K for the given electrode reaction?



Ans ☒ 1. $E = E^{\circ} - 0.059 \log [M^{n+}(aq)]$

☒ 2. $E = E^{\circ} - \frac{0.059}{n} \log \left[\frac{1}{M^{n+}(aq)} \right]$

☒ 3. $E = E^{\circ} + \frac{0.059}{n} \log \left[\frac{M^{n+}(aq)}{M} \right]$

☒ 4. $E = E^{\circ} + \frac{0.059}{n} \log \left[\frac{1}{M^{n+}(aq)} \right]$

Question ID : 441009110812

Option 1 ID : 441009440839

Option 2 ID : 441009440838

Option 3 ID : 441009440840

Option 4 ID : 441009440841

Q.17 Which of the following is NOT correct regarding the equivalent conductivity (Λ_{eq})?

Ans ☒ 1. $\Lambda_{eq} = \kappa \times 1000 / C$, where C is the concentration in mol/L

☒ 2. When a solution containing 1 g eq. of the electrolyte is diluted to a final volume of 9 cm³, its $\Lambda_{eq} = 9 \times \kappa$

☒ 3. For a 1N solution, equivalent conductivity is nearly 100 times specific conductivity

☒ 4. In a solution of 1 cm³ containing 1 g eq. of the electrolyte, $\Lambda_{eq} = \kappa$

Question ID : 441009110911

Option 1 ID : 441009441234

Option 2 ID : 441009441236

Option 3 ID : 441009441235

Option 4 ID : 441009441237

Q.18 In an electrolytic cell, which of the following statements is true?

Ans ☒ 1. The cathode is the site where oxidation occurs.

☒ 2. The anode is the site where oxidation occurs.

☒ 3. The anode is the site where reduction occurs.

☒ 4. Positive ions migrate towards the anode.

Question ID : 441009110913

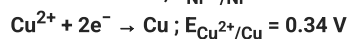
Option 1 ID : 441009441244

Option 2 ID : 441009441242

Option 3 ID : 441009441243

Option 4 ID : 441009441245

Q.19 Calculate the cell potential of the given cell.



Ans ☒ 1. - 0.59 V

☒ 2. 0.09 V

☒ 3. - 0.09 V

☒ 4. 0.59 V

Question ID : 441009110916

Option 1 ID : 441009441256

Option 2 ID : 441009441254

Option 3 ID : 441009441257

Option 4 ID : 441009441255

Q.20 In a solution where the van't Hoff factor 'i' is greater than 1, which of the following statements is/are correct?

A) The solution exhibits a greater degree of ionisation or dissociation compared to the expected value.

B) The observed boiling point elevation is less than predicted by the colligative property equations.

C) The calculated molecular mass is greater than observed molecular mass (based on the colligative effect).

D) The van't Hoff factor 'i' can be used to determine the extent of dissociation of an electrolyte in the solution.

Ans ☒ 1. All are correct

☒ 2. Only A and D

☒ 3. A, C and D

☒ 4. Only B and C

Question ID : 441009111045

Option 1 ID : 441009441773

Option 2 ID : 441009441770

Option 3 ID : 441009441772

Option 4 ID : 441009441771

Section : Discipline4

Q.1 Which of the following statements is NOT correct regarding the nature and formation of a coordinate bond?

Ans ☒ 1. Coordinate bonds are always weaker than covalent bonds.

☒ 2. A coordinate bond involves the sharing of electrons, where both electrons come from the same atom.

☒ 3. Once formed, a coordinate bond behaves like a covalent bond in terms of bond strength and properties.

☒ 4. A coordinate bond can form between a Lewis base and a Lewis acid, where the base donates an electron pair.

Question ID : 441009111028

Option 1 ID : 441009441704

Option 2 ID : 441009441702

Option 3 ID : 441009441703

Option 4 ID : 441009441705

Q.2 In what form does the energy reside after it has been added to the fluid and before it is transferred away?

- Ans ☒ 1. Sum of internal energy
☐ 2. Kinetic energy
☐ 3. Electrostatic energy
☐ 4. Potential energy

Question ID : 441009110677
Option 1 ID : 441009440301
Option 2 ID : 441009440299
Option 3 ID : 441009440300
Option 4 ID : 441009440298

Q.3 In metallurgy, what is the role of hydrogen?

- Ans ☐ 1. To enhance metal hardness
☐ 2. To increase metal oxide stability
☒ 3. To reduce metal oxides
☐ 4. To oxidise metal oxides

Question ID : 441009110657
Option 1 ID : 441009440221
Option 2 ID : 441009440220
Option 3 ID : 441009440218
Option 4 ID : 441009440219

Q.4 Which of the following statements are true in light of use of hydrogen as a fuel in hydrogen economy?

- i. Hydrogen could replace coal and oil as the major source of energy.
ii. Hydrogen can be produced readily by electrolysis, and chemical methods.
iii. Hydrogen can be stored and transported as gas in cylinders, as liquid in very large cryogenic vacuum flasks, or 'dissolved' in various metals.

- Ans ☐ 1. i and ii only
☒ 2. i, ii and iii
☐ 3. i and iii only
☐ 4. ii and iii only

Question ID : 441009116896
Option 1 ID : 441009464711
Option 2 ID : 441009464714
Option 3 ID : 441009464713
Option 4 ID : 441009464712

Q.5 Which of the following determines the maximum oxidation number an element can exhibit?

- Ans ☐ 1. Position in the periodic table
☐ 2. Atomic mass
☐ 3. Atomic radius
☒ 4. Outer electron configuration

Question ID : 441009110755
Option 1 ID : 441009440613
Option 2 ID : 441009440612
Option 3 ID : 441009440610
Option 4 ID : 441009440611

Q.6 According to Valence Bond Theory, which of the following molecules or ions has a central atom that undergoes sp^3d hybridisation ?

- Ans
- ☒ 1. BF_3
 - ☒ 2. NH_3
 - ☒ 3. H_2O
 - ☒ 4. SF_4

Question ID : 441009110928
Option 1 ID : 441009441305
Option 2 ID : 441009441303
Option 3 ID : 441009441304
Option 4 ID : 441009441302

Q.7 According to the First Law of Thermodynamics, which of the following statements is true for an isolated system?

- Ans
- ☒ 1. Both heat and work can be transferred into or out of the system.
 - ☒ 2. Heat can be transferred but work cannot be done.
 - ☒ 3. The internal energy remains constant.
 - ☒ 4. The internal energy changes depending on the processes occurring within the system.

Question ID : 441009111183
Option 1 ID : 441009442325
Option 2 ID : 441009442324
Option 3 ID : 441009442323
Option 4 ID : 441009442322

Q.8 Which term measures an element's tendency to lose an electron?

- Ans
- ☒ 1. Electronegativity
 - ☒ 2. Ionisation enthalpy
 - ☒ 3. Atomic radius
 - ☒ 4. Electron affinity

Question ID : 441009110668
Option 1 ID : 441009440262
Option 2 ID : 441009440264
Option 3 ID : 441009440265
Option 4 ID : 441009440263

Q.9 The valency of an element is primarily determined by its ____.

- Ans
- ☒ 1. number of neutrons
 - ☒ 2. atomic density
 - ☒ 3. atomic mass
 - ☒ 4. electronic configuration

Question ID : 441009110763
Option 1 ID : 441009440643
Option 2 ID : 441009440644
Option 3 ID : 441009440642
Option 4 ID : 441009440645

Q.10 The entropy of an isolated system consistently rises during a spontaneous, irreversible process until it attains its maximum value at:

- Ans
- ☒ 1. maximum temperature
 - ☒ 2. maximum pressure
 - ☒ 3. equilibrium
 - ☒ 4. minimum temperature

Question ID : 441009110772
Option 1 ID : 441009440679
Option 2 ID : 441009440681
Option 3 ID : 441009440680
Option 4 ID : 441009440678

Q.11 If a system undergoes a reversible process, which of the following remains constant?

- Ans
- ☒ 1. Pressure of the system
 - ☒ 2. Temperature gradient within the system
 - ☒ 3. Internal energy of the system
 - ☒ 4. Total entropy of the system and surroundings

Question ID : 441009110685
Option 1 ID : 441009440332
Option 2 ID : 441009440333
Option 3 ID : 441009440331
Option 4 ID : 441009440330

Q.12 Which of the following concepts are NOT explained by Valence Bond Theory (VBT)?
The formation of coordinate bond

The formation of odd electron molecules like H_2^+

The paramagnetic nature of oxygen molecule

The formation of O_2^+ and O_2^- ions from O_2

- Ans
- ☒ 1. Only A, C and D
 - ☒ 2. A, B, C and D
 - ☒ 3. Only B and C
 - ☒ 4. Only A and B

Question ID : 441009110845
Option 1 ID : 441009440972
Option 2 ID : 441009440973
Option 3 ID : 441009440971
Option 4 ID : 441009440970

Q.13 What is the systematic element naming convention in IUPAC for the element having atomic numbers 104?

- Ans
- ☒ 1. Unnilquadium
 - ☒ 2. Unnilhexium
 - ☒ 3. Unnilunium
 - ☒ 4. Unniltrium

Question ID : 441009110671
Option 1 ID : 441009440277
Option 2 ID : 441009440276
Option 3 ID : 441009440274
Option 4 ID : 441009440275

Q.14 Which of the following is a key advantage of the hydrogen economy?

- Ans
- ☐ 1. Energy is stored as electric power.
 - ☐ 2. Energy is transported as fossil fuels.
 - ☐ 3. Energy is stored as thermal energy.
 - ☒ 4. Energy is transported as dihydrogen.

Question ID : 441009110757

Option 1 ID : 441009440618

Option 2 ID : 441009440621

Option 3 ID : 441009440620

Option 4 ID : 441009440619

Q.15 What is the typical coordination number of a hydrogen atom involved in hydrogen bonding with electronegative atoms?

- Ans
- ☐ 1. 4
 - ☐ 2. 1
 - ☒ 3. 2
 - ☐ 4. 3

Question ID : 441009111038

Option 1 ID : 441009441742

Option 2 ID : 441009441745

Option 3 ID : 441009441744

Option 4 ID : 441009441743

Q.16 Which of the following are natural variables in internal energy?

- Ans
- ☒ 1. Entropy and Volume
 - ☐ 2. Pressure and Temperature
 - ☐ 3. Entropy and Pressure
 - ☐ 4. Temperature and Volume

Question ID : 441009110770

Option 1 ID : 441009440671

Option 2 ID : 441009440670

Option 3 ID : 441009440672

Option 4 ID : 441009440673

Q.17 Which of the following methods is NOT used in the preparation of hydrogen peroxide?

- Ans
- ☐ 1. Electrolytic oxidation of acidified sulphate solutions
 - ☒ 2. Oxidation of hydrogen sulphide with ozone
 - ☐ 3. Acidifying barium peroxide and removing excess water by evaporation
 - ☐ 4. Auto-oxidation of 2-alkyl anthraquinols

Question ID : 441009111119

Option 1 ID : 441009442067

Option 2 ID : 441009442069

Option 3 ID : 441009442066

Option 4 ID : 441009442068

Q.18 Which of the following states that the properties of elements follow a repeating pattern when arranged by their atomic weights?

- Ans
- ☐ 1. Aufbau Principle
 - ☒ 2. Periodic Law
 - ☐ 3. Hund's Rule
 - ☐ 4. Dalton's Law

Question ID : 441009110769
Option 1 ID : 441009440666
Option 2 ID : 441009440667
Option 3 ID : 441009440668
Option 4 ID : 441009440669

Q.19 What is the atomic number of the element named Ununseptium in IUPAC nomenclature?

- Ans
- ☐ 1. 112
 - ☐ 2. 102
 - ☐ 3. 120
 - ☒ 4. 117

Question ID : 441009110768
Option 1 ID : 441009440664
Option 2 ID : 441009440665
Option 3 ID : 441009440662
Option 4 ID : 441009440663

Q.20 Which of the following laws of thermodynamics states that 'It is impossible to reach absolute zero temperature in a finite number of steps'?

- Ans
- ☐ 1. Zeroth Law
 - ☐ 2. Second Law
 - ☒ 3. Third Law
 - ☐ 4. First Law

Question ID : 441009110775
Option 1 ID : 441009440690
Option 2 ID : 441009440692
Option 3 ID : 441009440693
Option 4 ID : 441009440691

Section : Discipline5

- Q.1 Which of the following statements are true with respect to inter halogen compounds?
- The halogens react with each other to form interhalogen compounds.
 - There are never more than two different halogens in a molecule.
 - The bonds are essentially covalent because of the small electronegativity difference and the melting and boiling points increase as the difference in electronegativity increases.
 - The interhalogens are generally more reactive than the halogens (except F_2).

Ans ☒ 1. ii and iv only
☒ 2. i and ii only
☒ 3. ii and iii only
☒ 4. i, ii, iii and iv

Question ID : 441009146291
 Option 1 ID : 441009581012
 Option 2 ID : 441009581010
 Option 3 ID : 441009581011
 Option 4 ID : 441009581013

Q.2 Which of the following statements are true for lime?

- It is calcium oxide, a white amorphous solid.
- On exposure to atmosphere, it absorbs moisture and carbon dioxide.
- It is a primary material for manufacturing cement.

Ans ☒ 1. i, ii and iii
☒ 2. i and ii only
☒ 3. i and iii only
☒ 4. ii and iii only

Question ID : 441009142731
 Option 1 ID : 441009567049
 Option 2 ID : 441009567046
 Option 3 ID : 441009567048
 Option 4 ID : 441009567047

Q.3 Match the column-I with column-II.

Column-I - Oxides of xenon	Column-II - Structure
A. $XeOF_2$	i. See-saw
B. XeO_2F_2	ii. Square pyramidal
C. $XeOF_4$	iii. T-shaped
D. XeO_3F_2	iv. Trigonal bipyramid

Ans ☒ 1. A-ii, B-i, C-iii, D-iv
☒ 2. A-iii, B-ii, C-i, D-iv
☒ 3. A-ii, B-i, C-iv, D-iii
☒ 4. A-iii, B-i, C-ii, D-iv

Question ID : 441009146320
 Option 1 ID : 441009581120
 Option 2 ID : 441009581119
 Option 3 ID : 441009581121
 Option 4 ID : 441009581118

Q.4 What is the principal method used in the industry to synthesise sulphuric acid?

- Ans
- ☐ 1. Solvay process
 - ☐ 2. Haber process
 - ☒ 3. Contact process
 - ☐ 4. Ostwald process

Question ID : 441009110740
Option 1 ID : 441009440552
Option 2 ID : 441009440551
Option 3 ID : 441009440550
Option 4 ID : 441009440553

Q.5 The correct decreasing order of ionic mobility of the alkali metals is:

- Ans
- ☒ 1. $\text{Cs}^+ > \text{Rb}^+ > \text{K}^+ > \text{Na}^+ > \text{Li}^+$
 - ☐ 2. $\text{Cs}^+ > \text{Rb}^+ > \text{K}^+ > \text{Li}^+ > \text{Na}^+$
 - ☐ 3. $\text{Rb}^+ > \text{Cs}^+ > \text{K}^+ > \text{Na}^+ > \text{Li}^+$
 - ☐ 4. $\text{Cs}^+ > \text{Rb}^+ > \text{Na}^+ > \text{K}^+ > \text{Li}^+$

Question ID : 441009124010
Option 1 ID : 441009492943
Option 2 ID : 441009492945
Option 3 ID : 441009492944
Option 4 ID : 441009492946

Q.6 What is the major application of ozone in water treatment?

- Ans
- ☐ 1. Filtration
 - ☐ 2. Hardening
 - ☒ 3. Disinfection
 - ☐ 4. Softening

Question ID : 441009110643
Option 1 ID : 441009440164
Option 2 ID : 441009440163
Option 3 ID : 441009440162
Option 4 ID : 441009440165

Q.7 What is the general trend in ionisation enthalpy for d-block elements across a period?

- Ans
- ☐ 1. Decreases
 - ☐ 2. Fluctuates
 - ☐ 3. Remains constant
 - ☒ 4. Increases

Question ID : 441009110636
Option 1 ID : 441009440134
Option 2 ID : 441009440137
Option 3 ID : 441009440136
Option 4 ID : 441009440135

Q.8 Group 1 elements of the Periodic Table are called _____.

- Ans
- ☒ 1. alkali metals
 - ☐ 2. noble metals
 - ☐ 3. non-metals
 - ☐ 4. alkaline earth metals

Question ID : 441009110653
Option 1 ID : 441009440202
Option 2 ID : 441009440205
Option 3 ID : 441009440204
Option 4 ID : 441009440203

Q.9 The diagonal relationship is primarily attributed to the similarity in _____.

- Ans
- ☐ 1. electronegativity of the elements
 - ☐ 2. atomic size of the elements
 - ☒ 3. ionic sizes and/or charge/radius ratios of the elements
 - ☐ 4. ionisation energy of the elements

Question ID : 441009110654
Option 1 ID : 441009440208
Option 2 ID : 441009440206
Option 3 ID : 441009440207
Option 4 ID : 441009440209

Q.10 What type of orbital hybridisation occurs around the central atom of halogen oxyacids?

- Ans
- ☐ 1. dsp^2
 - ☐ 2. sp^2
 - ☒ 3. sp^3
 - ☐ 4. sp

Question ID : 441009110737
Option 1 ID : 441009440541
Option 2 ID : 441009440539
Option 3 ID : 441009440540
Option 4 ID : 441009440538

Q.11 The anomalous behaviour of lithium is primarily due to its ____.

- Ans
- ☐ 1. low polarising power
 - ☐ 2. large atomic and ionic size
 - ☒ 3. small atomic and ionic size and high polarising power
 - ☐ 4. small atomic and ionic size and low polarising power

Question ID : 441009110754
Option 1 ID : 441009440607
Option 2 ID : 441009440606
Option 3 ID : 441009440608
Option 4 ID : 441009440609

Q.12 What is the electron arrangement for the element with an atomic number of 11?

- Ans
- ☐ 1. $1s^2 2s^2 2p^6 3p^1$
 - ☒ 2. $1s^2 2s^2 2p^6 3s^1$
 - ☐ 3. $1s^2 2s^2 2p^6 3d^1$
 - ☐ 4. $1s^2 2s^2 2p^6 3s^2$

Question ID : 441009110748

Option 1 ID : 441009440584

Option 2 ID : 441009440582

Option 3 ID : 441009440585

Option 4 ID : 441009440583

Q.13 Which of the following statements about the electronic configuration of p-block elements is correct?

- Ans
- ☐ 1. p-block elements are found only in groups 13 to 16.
 - ☐ 2. Noble gases have an incomplete p-subshell in their outermost shell.
 - ☒ 3. The general electronic configuration of p-block elements is $ns^2 np^{1-6}$
 - ☐ 4. All p-block elements have their valence electrons in the s-orbital only.

Question ID : 441009151709

Option 1 ID : 441009602017

Option 2 ID : 441009602018

Option 3 ID : 441009602016

Option 4 ID : 441009602015

Q.14 Read the given statements and select the most appropriate option.

Statements:

I.) As the s-orbital can accommodate only two electrons, two groups belong to the s-block of the Periodic Table.

II.) The general electronic configuration of s-block elements is ns^1 for alkali metals and ns^2 for alkaline Earth metals.

- Ans
- ☐ 1. Statement-I is true but Statement-II is false.
 - ☒ 2. Both the statements are true.
 - ☐ 3. Both the statements are false.
 - ☐ 4. Statement-I is false but Statement-II is true.

Question ID : 441009142707

Option 1 ID : 441009566956

Option 2 ID : 441009566954

Option 3 ID : 441009566955

Option 4 ID : 441009566957

Q.15 Which of the following is a distinguishing feature of boron hydrides?

- Ans
- ☐ 1. Density
 - ☐ 2. Solubility
 - ☒ 3. Flammability
 - ☐ 4. Stability

Question ID : 441009110746

Option 1 ID : 441009440577

Option 2 ID : 441009440576

Option 3 ID : 441009440575

Option 4 ID : 441009440574

Q.16 What is the primary source of sodium chloride?

- Ans ☐ 1. Mining
☒ 2. Seawater
☐ 3. Brine
☐ 4. Reacting sodium with chlorine

Question ID : 441009110652
Option 1 ID : 441009440198
Option 2 ID : 441009440199
Option 3 ID : 441009440201
Option 4 ID : 441009440200

Q.17 Which of the following statements are true about identification of H_2S ?

- i. It has a smell like rotten eggs.
ii. It can turn moist $\text{Pb}(\text{OAc})_2$ and $\text{Cd}(\text{OAc})_2$ paper black and yellow, respectively.
iii. It gives violet colouration with alkaline solution of sodium nitroprusside.

- Ans ☐ 1. i and iii only
☐ 2. ii and iii only
☐ 3. i and ii only
☒ 4. i, ii and iii

Question ID : 441009146228
Option 1 ID : 441009580772
Option 2 ID : 441009580771
Option 3 ID : 441009580770
Option 4 ID : 441009580773

Q.18 What is the process for transforming rhombic sulphur into monoclinic sulphur?

- Ans ☐ 1. Cooling
☐ 2. Dissolving
☒ 3. Heating
☐ 4. Mixing

Question ID : 441009110741
Option 1 ID : 441009440554
Option 2 ID : 441009440556
Option 3 ID : 441009440555
Option 4 ID : 441009440557

Q.19 What is the main industrial process for producing chlorine?

- Ans ☐ 1. Contact process
☐ 2. Haber process
☐ 3. Solvay process
☒ 4. Deacon's process

Question ID : 441009110738
Option 1 ID : 441009440542
Option 2 ID : 441009440545
Option 3 ID : 441009440543
Option 4 ID : 441009440544

Q.20 Which of the following correctly describes the characteristics of a red phosphorus?

- Ans
- ☐ 1. It is highly reactive and possesses angular strain.
 - ☐ 2. It catches fire easily when exposed to air.
 - ☐ 3. It is soluble in water and carbon disulphide.
 - ☒ 4. It is non-poisonous and does not glow in the dark.

Question ID : 441009111085

Option 1 ID : 441009441931

Option 2 ID : 441009441933

Option 3 ID : 441009441932

Option 4 ID : 441009441930

Section : Discipline6

Q.1 Which of the following describes the nature of the carbon-carbon bonds in benzene?

- Ans
- ☐ 1. Double bonds
 - ☐ 2. Single bonds
 - ☒ 3. Delocalised bonds
 - ☐ 4. Alternating single and double bonds

Question ID : 441009110619

Option 1 ID : 441009440067

Option 2 ID : 441009440066

Option 3 ID : 441009440069

Option 4 ID : 441009440068

Q.2 What type of magnetism is exhibited by transition metals with unpaired electrons?

- Ans
- ☐ 1. Antiferromagnetism
 - ☐ 2. Ferromagnetism
 - ☐ 3. Diamagnetism
 - ☒ 4. Paramagnetism

Question ID : 441009110633

Option 1 ID : 441009440125

Option 2 ID : 441009440124

Option 3 ID : 441009440122

Option 4 ID : 441009440123

Q.3 Which type of isomerism is exhibited by alkenes due to the restricted rotation around the double bond?

- Ans
- ☐ 1. Conformational
 - ☒ 2. Geometrical
 - ☐ 3. Structural
 - ☐ 4. Optical

Question ID : 441009110623

Option 1 ID : 441009440085

Option 2 ID : 441009440083

Option 3 ID : 441009440082

Option 4 ID : 441009440084

Q.4 What is a significant chemical importance of organometallic compounds in industrial applications?

- Ans
- ☐ 1. Only used in pharmaceutical applications
 - ☐ 2. Primarily used as solvents in chemical reactions
 - ☐ 3. No significant role in organic synthesis
 - ☒ 4. Serve as catalysts in various chemical processes

Question ID : 441009110724
Option 1 ID : 441009440488
Option 2 ID : 441009440486
Option 3 ID : 441009440489
Option 4 ID : 441009440487

Q.5 What is the main assumption of the valence bond theory for coordination compounds?

- Ans
- ☐ 1. Ligands form ionic bonds with the metal.
 - ☒ 2. Ligands donate electron pairs to the metal.
 - ☐ 3. Ligands form metallic bonds with the metal.
 - ☐ 4. Ligands form covalent bonds with the metal.

Question ID : 441009110627
Option 1 ID : 441009440099
Option 2 ID : 441009440098
Option 3 ID : 441009440101
Option 4 ID : 441009440100

Q.6 What is the general trend of acidity among the given hydrocarbons?

- Ans
- ☐ 1. Alkanes = Alkenes = Alkynes
 - ☐ 2. Alkanes > Alkenes > Alkynes
 - ☒ 3. Alkynes > Alkenes > Alkanes
 - ☐ 4. Alkenes > Alkynes > Alkanes

Question ID : 441009110620
Option 1 ID : 441009440073
Option 2 ID : 441009440070
Option 3 ID : 441009440071
Option 4 ID : 441009440072

Q.7 What type of hybridisation occurs in carbon atoms involved in a triple bond?

- Ans
- ☒ 1. sp
 - ☐ 2. dsp^2
 - ☐ 3. sp^3
 - ☐ 4. sp^2

Question ID : 441009110621
Option 1 ID : 441009440074
Option 2 ID : 441009440077
Option 3 ID : 441009440076
Option 4 ID : 441009440075

Q.8 The ions attached to the central atom in a coordination compound are called _____.

- Ans
- ☒ 1. reactants
 - ☒ 2. ligands
 - ☒ 3. catalysts
 - ☒ 4. solvents

Question ID : 441009110728
Option 1 ID : 441009440505
Option 2 ID : 441009440502
Option 3 ID : 441009440504
Option 4 ID : 441009440503

Q.9 Which type of magnetic property is exhibited by d-block transition metals with unpaired electrons?

- Ans
- ☒ 1. Paramagnetic
 - ☒ 2. Diamagnetic
 - ☒ 3. Ferromagnetic
 - ☒ 4. Antiferromagnetic

Question ID : 441009110549
Option 1 ID : 441009439787
Option 2 ID : 441009439786
Option 3 ID : 441009439788
Option 4 ID : 441009439789

Q.10 Which of the following statements accurately characterises the structure of a triple bond in alkynes?

- Ans
- ☒ 1. Triple bonds have two sigma bonds and one pi bond.
 - ☒ 2. Triple bond has a bond angle of 120 degrees.
 - ☒ 3. Triple bonds are formed only by the overlap of p orbitals.
 - ☒ 4. Triple bonds have one sigma bond and two pi bonds.

Question ID : 441009110715
Option 1 ID : 441009440450
Option 2 ID : 441009440453
Option 3 ID : 441009440452
Option 4 ID : 441009440451

Q.11 What type of bonding occurs between the metal and ligands in coordination compounds?

- Ans
- ☒ 1. Metallic
 - ☒ 2. Coordinate covalent
 - ☒ 3. Ionic
 - ☒ 4. Covalent

Question ID : 441009110628
Option 1 ID : 441009440104
Option 2 ID : 441009440105
Option 3 ID : 441009440102
Option 4 ID : 441009440103

Q.12 What factors contribute to the increased acidity of terminal alkynes compared to alkenes and alkanes?

- Ans
- ☒ 1. They have a higher percentage of 's' characters in their hybrid orbitals.
 - ☐ 2. They have longer carbon-carbon bonds.
 - ☐ 3. They are saturated hydrocarbons.
 - ☐ 4. They have more hydrogen atoms.

Question ID : 441009110714
Option 1 ID : 441009440447
Option 2 ID : 441009440449
Option 3 ID : 441009440448
Option 4 ID : 441009440446

Q.13 Which of the following words best describes the oxidation states of d-block elements?

- Ans
- ☐ 1. Rare
 - ☐ 2. Fixed
 - ☐ 3. Unstable
 - ☒ 4. Variable

Question ID : 441009110732
Option 1 ID : 441009440520
Option 2 ID : 441009440519
Option 3 ID : 441009440521
Option 4 ID : 441009440518

Q.14 Which oxide of manganese is referred to as manganese dioxide?

- Ans
- ☒ 1. MnO_2
 - ☐ 2. Mn_2O_3
 - ☐ 3. Mn_3O_4
 - ☐ 4. MnO

Question ID : 441009110730
Option 1 ID : 441009440511
Option 2 ID : 441009440512
Option 3 ID : 441009440513
Option 4 ID : 441009440510

Q.15 Which of the following statements accurately describes the chair and boat conformations of cyclohexane?

- Ans
- ☒ 1. The chair conformation is more stable than the boat conformation.
 - ☐ 2. The chair conformation has higher steric strain than the boat conformation.
 - ☐ 3. The boat conformation is more stable than the chair conformation.
 - ☐ 4. The boat conformation has no steric strain.

Question ID : 441009110719
Option 1 ID : 441009440468
Option 2 ID : 441009440467
Option 3 ID : 441009440466
Option 4 ID : 441009440469

Q.16 Which transition metal ion typically forms blue-coloured compounds?

- Ans ☒ 1. Cu^{2+}
☒ 2. Fe^{2+}
☒ 3. Zn^{2+}
☒ 4. Ni^{2+}

Question ID : 441009110731
Option 1 ID : 441009440515
Option 2 ID : 441009440514
Option 3 ID : 441009440517
Option 4 ID : 441009440516

Q.17 The reaction used to form cycloalkanes from alkyl halides is:

- Ans ☒ 1. Kolbe Electrolysis
☒ 2. Wurtz Reaction
☒ 3. Friedel-Crafts Reaction
☒ 4. Diels-Alder Reaction

Question ID : 441009110624
Option 1 ID : 441009440087
Option 2 ID : 441009440086
Option 3 ID : 441009440089
Option 4 ID : 441009440088

Q.18 Which property shows an increasing trend across the first-row transition elements?

- Ans ☒ 1. Melting point
☒ 2. Atomic radius
☒ 3. Density
☒ 4. Ionisation energy

Question ID : 441009110734
Option 1 ID : 441009440527
Option 2 ID : 441009440526
Option 3 ID : 441009440529
Option 4 ID : 441009440528

Q.19 What is the correct classification of cycloalkanes?

- Ans ☒ 1. Cyclic saturated hydrocarbons
☒ 2. Acyclic unsaturated hydrocarbons
☒ 3. Cyclic unsaturated hydrocarbons
☒ 4. Aromatic hydrocarbons

Question ID : 441009111155
Option 1 ID : 441009442211
Option 2 ID : 441009442210
Option 3 ID : 441009442213
Option 4 ID : 441009442212

Q.20 Which series of elements is characterised by the filling of the 4f orbitals?

Ans ☒ 1. Lanthanoids

☒ 2. Actinoids

☒ 3. Transition

☒ 4. Alkali

Question ID : 441009110550

Option 1 ID : 441009439791

Option 2 ID : 441009439790

Option 3 ID : 441009439792

Option 4 ID : 441009439793

Section : Discipline7

Q.1 Which statement is NOT true with respect to the carbonyl group?

Ans ☒ 1. Nucleophilic addition to carbonyl group takes place.

☒ 2. Carbonyl carbon is SP hybridised.

☒ 3. Carbonyl group is polar.

☒ 4. Electrophilic addition to carbonyl group takes place.

Question ID : 441009110838

Option 1 ID : 441009440944

Option 2 ID : 441009440943

Option 3 ID : 441009440942

Option 4 ID : 441009440945

Q.2 Why does 1,4-addition predominate at high temperatures even though the 1,2-product forms faster?

Ans ☒ 1. 1,2-product is a radical

☒ 2. 1,4-product is more stable (thermodynamic product)

☒ 3. 1,4-product forms faster at higher temperature

☒ 4. 1,2-product decomposes quickly

Question ID : 441009145323

Option 1 ID : 441009577254

Option 2 ID : 441009577253

Option 3 ID : 441009577252

Option 4 ID : 441009577251

Q.3 Which of the following reagents is used to distinguish between primary, secondary and tertiary alcohols?

Ans ☒ 1. Lucas reagent

☒ 2. 2,4-DNP reagent

☒ 3. Tollens reagent

☒ 4. Grignard reagent

Question ID : 441009111053

Option 1 ID : 441009441804

Option 2 ID : 441009441805

Option 3 ID : 441009441803

Option 4 ID : 441009441802

Q.4 Which of the following named reactions is used to synthesise the aromatic aldehyde?

- Ans
- ☐ 1. Dieckmann
 - ☐ 2. Perkin
 - ☐ 3. Cannizaro
 - ☒ 4. Gattermann-Koch

Question ID : 441009110888
Option 1 ID : 441009441145
Option 2 ID : 441009441143
Option 3 ID : 441009441142
Option 4 ID : 441009441144

Q.5 Which of the following is an example of an aromatic primary amine?

- Ans
- ☐ 1. N-methylaniline
 - ☐ 2. Methylamine
 - ☐ 3. Ethylamine
 - ☒ 4. Aniline

Question ID : 441009111044
Option 1 ID : 441009441769
Option 2 ID : 441009441767
Option 3 ID : 441009441766
Option 4 ID : 441009441768

Q.6 What is the application of polystyrene?

- Ans
- ☐ 1. To prepare water pipes
 - ☒ 2. To prepare protective boxes
 - ☐ 3. To prepare carry bags
 - ☐ 4. To prepare water bottles

Question ID : 441009110820
Option 1 ID : 441009440870
Option 2 ID : 441009440872
Option 3 ID : 441009440871
Option 4 ID : 441009440873

Q.7 Starch and cellulose have ____ glycosidic linkages, respectively.

- Ans
- ☒ 1. α -1,4- and β -1,4-
 - ☐ 2. β -1,4- and α -1,6-
 - ☐ 3. β -1,6- and α -1,4-
 - ☐ 4. β -1,4- and α -1,4-

Question ID : 441009110793
Option 1 ID : 441009440764
Option 2 ID : 441009440763
Option 3 ID : 441009440765
Option 4 ID : 441009440762

Q.8 Benzyl alcohol is a _____.

- Ans
- ☐ 1. phenol
 - ☐ 2. tertiary alcohol
 - ☒ 3. primary alcohol
 - ☐ 4. secondary alcohol

Question ID : 441009110846
Option 1 ID : 441009440975
Option 2 ID : 441009440974
Option 3 ID : 441009440977
Option 4 ID : 441009440976

Q.9 Which type of strain is primarily associated with the boat form of cyclohexane?

- Ans
- ☐ 1. Angle
 - ☒ 2. Torsional
 - ☐ 3. Steric
 - ☐ 4. Ring

Question ID : 441009110551
Option 1 ID : 441009439794
Option 2 ID : 441009439795
Option 3 ID : 441009439796
Option 4 ID : 441009439797

Q.10 What type of mechanism occurs during the preparation of ether in Williamson synthesis?

- Ans
- ☐ 1. E2
 - ☐ 2. SN¹
 - ☒ 3. SN²
 - ☐ 4. E1

Question ID : 441009160222
Option 1 ID : 441009635177
Option 2 ID : 441009635174
Option 3 ID : 441009635175
Option 4 ID : 441009635176

Q.11 In an SN2 mechanism, the term for the high-energy state where the nucleophile and the leaving group are both forming bonds with the carbon is _____.

- Ans
- ☐ 1. tetrahedral
 - ☒ 2. Pentavalent
 - ☐ 3. Bicyclic
 - ☐ 4. carbocation

Question ID : 441009110707
Option 1 ID : 441009440419
Option 2 ID : 441009440420
Option 3 ID : 441009440421
Option 4 ID : 441009440418

Q.12 Aniline is lesser basic than ethyl amine, because of _____.

Ans ☒ 1. delocalization of lone pair on nitrogen

☐ 2. steric factor

☐ 3. hydrogen bonding

☐ 4. its bigger structure

Question ID : 441009110858

Option 1 ID : 441009441023

Option 2 ID : 441009441024

Option 3 ID : 441009441022

Option 4 ID : 441009441025

Q.13 Chemically, isoprene units present in natural rubber are _____.

Ans ☐ 1. 1-Ethyl-2,3-butadiene

☐ 2. 2,3-butadiene

☐ 3. 3-Methyl-2,2-butadiene

☒ 4. 2-Methyl-1,3-butadiene

Question ID : 441009111015

Option 1 ID : 441009441653

Option 2 ID : 441009441650

Option 3 ID : 441009441652

Option 4 ID : 441009441651

Q.14 What type of polyhalogen compounds is NOT a derivative of a hydrocarbon?

Ans ☒ 1. Monohalides

☐ 2. Tetrahalides

☐ 3. Dihalides

☐ 4. Trihalides

Question ID : 441009110612

Option 1 ID : 441009440038

Option 2 ID : 441009440041

Option 3 ID : 441009440039

Option 4 ID : 441009440040

Q.15 In alcohols, the presence of a lone pair of electrons on which of the following makes them a Lewis base?

Ans ☐ 1. Hydrogen

☐ 2. Carbon

☐ 3. Nitrogen

☒ 4. Oxygen

Question ID : 441009111051

Option 1 ID : 441009441795

Option 2 ID : 441009441794

Option 3 ID : 441009441796

Option 4 ID : 441009441797

Q.16 Which of the following is a method to determine the molecular weight of a polymer?

- Ans
- ☐ 1. Thin layer chromatography
 - ☐ 2. Column chromatography
 - ☒ 3. Size exclusion chromatography
 - ☐ 4. Gas chromatography

Question ID : 441009110799

Option 1 ID : 441009440787

Option 2 ID : 441009440789

Option 3 ID : 441009440786

Option 4 ID : 441009440788

Q.17 Which specific colour test is used to differentiate aryl halides from alkyl halides?

- Ans
- ☐ 1. Sodium iodide test
 - ☐ 2. Black precipitation test
 - ☒ 3. Silver nitrate test
 - ☐ 4. Iodoform test

Question ID : 441009110708

Option 1 ID : 441009440425

Option 2 ID : 441009440423

Option 3 ID : 441009440424

Option 4 ID : 441009440422

Q.18 Which of the following is NOT true in case of cellulose?

- Ans
- ☐ 1. Cellulose is linear polymer of glucose molecules.
 - ☐ 2. All monosaccharide units are joined by β -1,4-glycosidic linkages.
 - ☒ 3. All monosaccharide units are joined by α -1,4-glycosidic linkages.
 - ☐ 4. Cellulose is made up of glucose units.

Question ID : 441009110604

Option 1 ID : 441009440009

Option 2 ID : 441009440008

Option 3 ID : 441009440007

Option 4 ID : 441009440006

Q.19 In elimination reaction, _____ reaction pathway involves the formation of a positively charged carbon species.

- Ans
- ☐ 1. SN1
 - ☐ 2. E2
 - ☐ 3. SN2
 - ☒ 4. E1

Question ID : 441009110706

Option 1 ID : 441009440417

Option 2 ID : 441009440414

Option 3 ID : 441009440416

Option 4 ID : 441009440415

Q.20 Addition polymerisation reaction is the resultant of _____.

- Ans
- ☐ 1. elimination of by-products
 - ☐ 2. addition of alkanes
 - ☐ 3. subtraction of alkenes
 - ☒ 4. addition of alkenes without elimination of by-products

Question ID : 441009110824

Option 1 ID : 441009440886

Option 2 ID : 441009440887

Option 3 ID : 441009440888

Option 4 ID : 441009440889

Section : Discipline8

Q.1 Which of the following statements is NOT true with respect to the cellulase enzyme?

- Ans
- ☐ 1. Cattle possess bacteria which produce the enzyme cellulase.
 - ☐ 2. Cellulase is produced by fungi and bacteria.
 - ☐ 3. Cellulase hydrolysis the cellulose.
 - ☒ 4. The stomach of the human body contains bacteria, which produce the enzyme cellulase.

Question ID : 441009110597

Option 1 ID : 441009439981

Option 2 ID : 441009439978

Option 3 ID : 441009439979

Option 4 ID : 441009439980

Q.2 The drug Chloroquine is used to _____.

- Ans
- ☐ 1. reduce inflammation
 - ☐ 2. provide relief from pain
 - ☐ 3. inhibit bacterial infection
 - ☒ 4. cure malaria

Question ID : 441009110586

Option 1 ID : 441009439936

Option 2 ID : 441009439935

Option 3 ID : 441009439937

Option 4 ID : 441009439934

Q.3 Which globular protein acts as a storage form of oxygen in muscle tissue?

- Ans
- ☐ 1. Myosin
 - ☐ 2. Haemoglobin
 - ☒ 3. Myoglobin
 - ☐ 4. Albumin

Question ID : 441009149309

Option 1 ID : 441009592996

Option 2 ID : 441009592998

Option 3 ID : 441009592997

Option 4 ID : 441009592999

Q.4 Povidone-iodine is a commonly used _____.

- Ans
- ☒ 1. antidepressant
 - ☒ 2. anti-inflammatory agent
 - ☒ 3. antiseptic agent
 - ☒ 4. analgesic

Question ID : 441009110700
Option 1 ID : 441009440391
Option 2 ID : 441009440390
Option 3 ID : 441009440392
Option 4 ID : 441009440393

Q.5 Which of the following statements is NOT true about sedatives?

- Ans
- ☒ 1. Sedatives have disinfectant properties.
 - ☒ 2. Sedatives have analgesic properties.
 - ☒ 3. Sedatives are known as tranquilizers.
 - ☒ 4. Sedatives have anaesthetic properties.

Question ID : 441009110581
Option 1 ID : 441009439916
Option 2 ID : 441009439914
Option 3 ID : 441009439915
Option 4 ID : 441009439917

Q.6 Which type of primary reaction takes place in the body after the intake of an antacid drug?

- Ans
- ☒ 1. Reduction
 - ☒ 2. Neutralisation
 - ☒ 3. Oxidation
 - ☒ 4. Sulfonation

Question ID : 441009110978
Option 1 ID : 441009441503
Option 2 ID : 441009441505
Option 3 ID : 441009441502
Option 4 ID : 441009441504

Q.7 Which of the following molecules is an example of zwitterion at neutral pH?

- Ans
- ☒ 1. Phenyl alanine
 - ☒ 2. p-anisidine
 - ☒ 3. o-toluidine
 - ☒ 4. Salicylic acid

Question ID : 441009110790
Option 1 ID : 441009440751
Option 2 ID : 441009440752
Option 3 ID : 441009440753
Option 4 ID : 441009440750

Q.8 Paracetamol is a very common _____.

- Ans ☐ 1. analgesic drug only
- ☒ 2. antipyretic and analgesic drug
- ☐ 3. antipyretic and anti-malarial drug
- ☐ 4. analgesic and anti-bacterial drug

Question ID : 441009110701
Option 1 ID : 441009440397
Option 2 ID : 441009440395
Option 3 ID : 441009440394
Option 4 ID : 441009440396

Q.9 Methyl salicylate is mainly used _____.

- Ans ☐ 1. to control fever
- ☐ 2. to inhibit the growth of cancer cells
- ☒ 3. as an analgesic
- ☐ 4. as an antipyretic

Question ID : 441009110583
Option 1 ID : 441009439922
Option 2 ID : 441009439924
Option 3 ID : 441009439923
Option 4 ID : 441009439925

Q.10 Which one of the following factors DOES NOT affect the viscosity of a liquid?

- Ans ☐ 1. Temperature
- ☒ 2. Molecular size
- ☐ 3. Pressure
- ☐ 4. Nature of intermolecular forces

Question ID : 441009111066
Option 1 ID : 441009441855
Option 2 ID : 441009441854
Option 3 ID : 441009441856
Option 4 ID : 441009441857

Q.11 Which of the following is NOT true in case of drug metabolism?

- Ans ☐ 1. The drug should be converted into a more polar metabolite.
- ☐ 2. The drug should be converted into a non-toxic metabolite.
- ☒ 3. The drug should be converted into a toxic metabolite.
- ☐ 4. The drug should not be converted into a non-polar metabolite.

Question ID : 441009110594
Option 1 ID : 441009439968
Option 2 ID : 441009439966
Option 3 ID : 441009439967
Option 4 ID : 441009439969

Q.12 Occupancy theory is used to explain _____.

- Ans ☒ 1. the drug-receptor interaction
☐ 2. the mechanism of drug action
☐ 3. the protein structure
☐ 4. SAR studies

Question ID : 441009110585
Option 1 ID : 441009439933
Option 2 ID : 441009439931
Option 3 ID : 441009439930
Option 4 ID : 441009439932

Q.13 Which of the following is NOT true regarding deodorants?

- Ans ☐ 1. Deodorant has fewer harsh chemicals than perfumes.
☐ 2. Deodorant is applied to the skin.
☒ 3. Deodorant stays for a longer time than perfumes.
☐ 4. Deodorant gives a pleasant fragrance.

Question ID : 441009110695
Option 1 ID : 441009440371
Option 2 ID : 441009440370
Option 3 ID : 441009440372
Option 4 ID : 441009440373

Q.14 α -D-glucopyranose and β -D-glucopyranose are _____.

- Ans ☐ 1. functional isomers
☐ 2. regio isomers
☒ 3. anomers
☐ 4. epimers

Question ID : 441009110796
Option 1 ID : 441009440777
Option 2 ID : 441009440776
Option 3 ID : 441009440775
Option 4 ID : 441009440774

Q.15 The cleaning action of synthetic detergents remains effective in hard water primarily due to:

- Ans ☐ 1. Formation of stable calcium sulfonate scum
☒ 2. Non-reactivity of sulfonate anion with Ca^{2+} and Mg^{2+} ions
☐ 3. Chelation of metal ions by detergents
☐ 4. The high pH of the detergent solution

Question ID : 441009149343
Option 1 ID : 441009593134
Option 2 ID : 441009593133
Option 3 ID : 441009593135
Option 4 ID : 441009593132

Q.16 While preparing the deodorants, which among the following is added to block the sweat duct and to minimise the perspiration?

- Ans ☒ 1. Aluminium chlorohydrate
☒ 2. Sodium lauryl sulfate
☒ 3. Potassium bromide
☒ 4. Aluminium hydroxide

Question ID : 441009110975
Option 1 ID : 441009441492
Option 2 ID : 441009441490
Option 3 ID : 441009441493
Option 4 ID : 441009441491

Q.17 The official name assigned by the FDA is known as _____.

- Ans ☒ 1. chemical name
☒ 2. IUPAC name
☒ 3. common name
☒ 4. generic name

Question ID : 441009110702
Option 1 ID : 441009440401
Option 2 ID : 441009440399
Option 3 ID : 441009440398
Option 4 ID : 441009440400

Q.18 Which molecule is an example for Zwitter ion?

- Ans ☒ 1. Glycine
☒ 2. Anisole
☒ 3. Benzocaine
☒ 4. p-amino benzaldehyde

Question ID : 441009110601
Option 1 ID : 441009439996
Option 2 ID : 441009439997
Option 3 ID : 441009439995
Option 4 ID : 441009439994

Q.19 Which of the following statements is NOT true with respect to the drug molecule?

- Ans ☒ 1. Ideal drug should be non-toxic.
☒ 2. Drug molecule interacts with receptor to cure the disease.
☒ 3. Ideal drug should have high molecular weight.
☒ 4. Receptors are macromolecule-like protein.

Question ID : 441009110735
Option 1 ID : 441009440533
Option 2 ID : 441009440530
Option 3 ID : 441009440532
Option 4 ID : 441009440531

Q.20 Hydrolysis of starch with hydrochloric acid at high temperature under pressure produces:

- Ans
- ☒ 1. mannose
 - ☒ 2. fructose
 - ☒ 3. glucose
 - ☒ 4. arabinose

Question ID : 441009170027
Option 1 ID : 441009673023
Option 2 ID : 441009673022
Option 3 ID : 441009673021
Option 4 ID : 441009673024

Section : Discipline9

Q.1 Tranquilisers are also called _____.

- Ans
- ☒ 1. sedatives
 - ☒ 2. anti-fungal agents
 - ☒ 3. anti-bacterial agents
 - ☒ 4. antiseptics

Question ID : 441009110699
Option 1 ID : 441009440388
Option 2 ID : 441009440386
Option 3 ID : 441009440389
Option 4 ID : 441009440387

Q.2 Carbonyl stretching frequency of acetamide molecule in IR spectra would be _____.

- Ans
- ☒ 1. 1725 cm^{-1}
 - ☒ 2. 1740 cm^{-1}
 - ☒ 3. 1715 cm^{-1}
 - ☒ 4. 1670 cm^{-1}

Question ID : 441009110664
Option 1 ID : 441009440246
Option 2 ID : 441009440249
Option 3 ID : 441009440247
Option 4 ID : 441009440248

Q.3 Select the correct order of different stages of drug metabolism.

- Ans
- ☒ 1. Absorption, distribution, metabolism and excretion
 - ☒ 2. Absorption, metabolism, distribution and excretion
 - ☒ 3. Distribution, absorption, metabolism and excretion
 - ☒ 4. Distribution, metabolism, absorption and excretion

Question ID : 441009110713
Option 1 ID : 441009440445
Option 2 ID : 441009440442
Option 3 ID : 441009440443
Option 4 ID : 441009440444

Q.4 In deoxy-Hb and oxy-Hb, Fe(II) is in _____ states, respectively.

- Ans
- ☒ 1. high spin (t_{2g}^4, e_g^2) and high spin (t_{2g}^6, e_g^0)
 - ☒ 2. low spin (t_{2g}^6, e_g^0) and high spin (t_{2g}^4, e_g^2)
 - ☒ 3. low spin (t_{2g}^4, e_g^2) and low spin (t_{2g}^6, e_g^2)
 - ☒ 4. high spin (t_{2g}^4, e_g^2) and low spin (t_{2g}^6, e_g^0)

Question ID : 441009110686

Option 1 ID : 441009440335

Option 2 ID : 441009440336

Option 3 ID : 441009440337

Option 4 ID : 441009440334

Q.5 In the Raman spectra, when the frequency of the incident ray is greater than the frequency of the scattered ray, it is called as _____.

- Ans
- ☒ 1. anti-Stokes lines
 - ☒ 2. spectral lines
 - ☒ 3. Stokes lines
 - ☒ 4. Rayleigh's scattering

Question ID : 441009110564

Option 1 ID : 441009439847

Option 2 ID : 441009439849

Option 3 ID : 441009439846

Option 4 ID : 441009439848

Q.6 Conversions in photosystem-I and photosystem-II are _____, respectively.

- Ans
- ☒ 1. NADP^+ to NADPH and H_2O to O_2
 - ☒ 2. NADPH to NADP^+ and O_2 to H_2O
 - ☒ 3. Only NADP^+ to NADPH
 - ☒ 4. H_2O to O_2 and NADP^+ to NADPH

Question ID : 441009110689

Option 1 ID : 441009440346

Option 2 ID : 441009440349

Option 3 ID : 441009440348

Option 4 ID : 441009440347

Q.7 The red colour of the blood is due to _____ charge transfer electronic transition.

- Ans
- ☒ 1. σ to σ^*
 - ☒ 2. π to σ^*
 - ☒ 3. π to n^*
 - ☒ 4. π to π^*

Question ID : 441009110569

Option 1 ID : 441009439867

Option 2 ID : 441009439869

Option 3 ID : 441009439866

Option 4 ID : 441009439868

Q.8 Which molecule may NOT exhibit molecular ion peak in mass spectra?

- Ans
- ☒ 1. Ether
 - ☒ 2. Tertiary alcohol
 - ☒ 3. Benzene
 - ☒ 4. Alkene

Question ID : 441009110561
Option 1 ID : 441009439837
Option 2 ID : 441009439836
Option 3 ID : 441009439834
Option 4 ID : 441009439835

Q.9 Auxiliary electrode can also be called _____.

- Ans
- ☒ 1. reference electrode
 - ☒ 2. working electrode
 - ☒ 3. calomel electrode
 - ☒ 4. counter electrode

Question ID : 441009110692
Option 1 ID : 441009440360
Option 2 ID : 441009440359
Option 3 ID : 441009440361
Option 4 ID : 441009440358

Q.10 Which statement is most accurate regarding soap?

- Ans
- ☒ 1. Soap micelles have hydrophobic interiors and hydrophilic surfaces.
 - ☒ 2. Soap molecules do not contain ionic heads and non-polar tails.
 - ☒ 3. Soap is chemically identical to synthetic detergents.
 - ☒ 4. Soap works equally well in hard and soft water.

Question ID : 441009110577
Option 1 ID : 441009439901
Option 2 ID : 441009439899
Option 3 ID : 441009439900
Option 4 ID : 441009439898

Q.11 In the polarographic technique, the working electrode (dropping mercury electrode) is the _____.

- Ans
- ☒ 1. non-active electrode
 - ☒ 2. active electrode
 - ☒ 3. non-polarisable electrode
 - ☒ 4. polarisable electrode

Question ID : 441009110573
Option 1 ID : 441009439885
Option 2 ID : 441009439883
Option 3 ID : 441009439882
Option 4 ID : 441009439884

Q.12 Centrifugation is a separation technique in which particles are separated based on which of the following properties?

- Ans
- ☐ 1. Boiling point
 - ☐ 2. Viscosity
 - ☐ 3. Molecular weight cut off
 - ☒ 4. Density

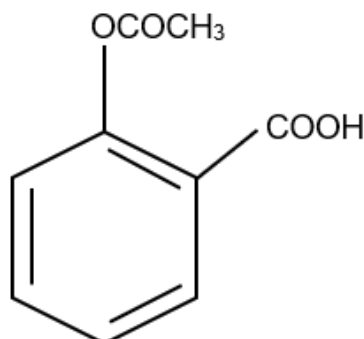
Question ID : 441009110974
Option 1 ID : 441009441487
Option 2 ID : 441009441488
Option 3 ID : 441009441486
Option 4 ID : 441009441489

Q.13 Which of the following is NOT true with respect to DFT of computational methods?

- Ans
- ☐ 1. DFT is popular in computational solid state physics.
 - ☒ 2. DFT is not related to computational methods.
 - ☐ 3. DFT is used to calculate electronic structure of atoms or molecules.
 - ☐ 4. DFT means Density functional theory.

Question ID : 441009110610
Option 1 ID : 441009440031
Option 2 ID : 441009440033
Option 3 ID : 441009440032
Option 4 ID : 441009440030

Q.14 The following compound is used as an:



- Ans
- ☐ 1. antiseptic
 - ☐ 2. pesticide
 - ☒ 3. analgesic
 - ☐ 4. antibiotic

Question ID : 441009170191
Option 1 ID : 441009673669
Option 2 ID : 441009673672
Option 3 ID : 441009673671
Option 4 ID : 441009673670

Q.15 In chemistry laboratory, which method is commonly popular for the synthesis of the Fullerene?

- Ans
- ☐ 1. Chemical vapour deposition
 - ☐ 2. Sol gel method
 - ☒ 3. Electric arc discharge method
 - ☐ 4. Chemical synthesis method

Question ID : 441009110959
Option 1 ID : 441009441427
Option 2 ID : 441009441426
Option 3 ID : 441009441428
Option 4 ID : 441009441429

Q.16 Which statement is NOT true with respect to carbon nanotubes (CNTs)?

- Ans
- ☐ 1. CNTs are used to prepare sporting material.
 - ☒ 2. In CNT, carbon is SP hybridised.
 - ☐ 3. CNTs have a high melting point.
 - ☐ 4. In CNT, each carbon atom is joined to three carbon atoms by strong covalent bonds.

Question ID : 441009110592
Option 1 ID : 441009439960
Option 2 ID : 441009439961
Option 3 ID : 441009439959
Option 4 ID : 441009439958

Q.17 Which metal is present in carboxypeptidase?

- Ans
- ☐ 1. Co
 - ☐ 2. Fe
 - ☐ 3. Mo
 - ☒ 4. Zn

Question ID : 441009110687
Option 1 ID : 441009440339
Option 2 ID : 441009440340
Option 3 ID : 441009440338
Option 4 ID : 441009440341

Q.18 In computational methods, the term 'ab initio' means _____.

- Ans
- ☒ 1. from beginning
 - ☐ 2. from the last
 - ☐ 3. from the middle
 - ☐ 4. from any point

Question ID : 441009110611
Option 1 ID : 441009440034
Option 2 ID : 441009440036
Option 3 ID : 441009440035
Option 4 ID : 441009440037

Q.19 The role of sodium benzoate as a preservative in food is based on:

- Ans ☒ 1. Blocking enzymatic hydrolysis in human digestion
- ☒ 2. Inhibiting microbial growth in acidic media
- ☒ 3. Enhancing the nutrient absorption in the gut
- ☒ 4. Neutralising stomach acid

Question ID : 441009149341

Option 1 ID : 441009593124

Option 2 ID : 441009593125

Option 3 ID : 441009593126

Option 4 ID : 441009593127

Q.20 Predict the number of spectral lines and relative intensities of p-benzoquinone radical anion, respectively, in the EPR spectrum.

- Ans ☒ 1. Five lines and 1:4:6:4:1
- ☒ 2. Six lines and 1:5:10:10:5:1
- ☒ 3. Four lines and 1:3:3:1
- ☒ 4. Two lines and 1:1

Question ID : 441009110674

Option 1 ID : 441009440289

Option 2 ID : 441009440288

Option 3 ID : 441009440287

Option 4 ID : 441009440286

Section : Teaching Methodology

Q.1 Match the terms related to cognitive development in children with their respective descriptions.

A	Adaptation	P	Involves using our current schemas to interpret the external world
B	Organisation	Q	Involves creating new schema to understand the environment completely
C	Assimilation	R	Involves building schema through direct interaction with the environment
D	Accommodation	S	Linking new schemas with other schema to create a strongly interconnected cognitive system

- Ans ☒ 1. A-S; B-R; C-Q; D-P
- ☒ 2. A-P; B-S; C-Q; D-R
- ☒ 3. A-R; B-Q; C-S; D-P
- ☒ 4. A-R; B-S; C-P; D-Q

Question ID : 441009940764

Option 1 ID : 4410093716711

Option 2 ID : 4410093716709

Option 3 ID : 4410093716712

Option 4 ID : 4410093716710

Q.2 It is an area where a child cannot solve a problem alone but can be successful if an opportunity to interact with a more experienced peer is given. This theory is called:

- Ans
- ☒ 1. humanistic
 - ☒ 2. social learning
 - ☒ 3. construction
 - ☒ 4. zone of proximal development

Question ID : 441009683841
Option 1 ID : 4410092689338
Option 2 ID : 4410092689339
Option 3 ID : 4410092689337
Option 4 ID : 4410092689336

Q.3 जेंडर-अनुकूल स्कूल को बढ़ावा देने के लिए निम्नलिखित में से किस विचार को शिक्षकों की प्रगतिशील मानसिकता के रूप में माना जाता है?

- A. लड़कियाँ शिक्षित होने की अधिकारी हैं क्योंकि शिक्षा एक मूलभूत मानव अधिकार है।
B. लड़कियाँ शिक्षित होने की अधिकारी हैं क्योंकि परिवारों को मूलभूत आवश्यकताओं को पूरा करने के लिए अतिरिक्त आय की आवश्यकता होती है।
C. लड़कियों को शिक्षित करना महत्वपूर्ण है क्योंकि यह उनके अधिकारों के प्रयोग तक उनकी पहुँच की संभावनाओं को निर्धारित करता है।

- Ans
- ☒ 1. केवल A और C
 - ☒ 2. केवल A
 - ☒ 3. केवल C
 - ☒ 4. केवल A और B

Question ID : 441009940787
Option 1 ID : 4410093716802
Option 2 ID : 4410093716803
Option 3 ID : 4410093716804
Option 4 ID : 4410093716801

Q.4 The language that educators and learners use to learn new information and abilities is referred to as:

- Ans
- ☒ 1. academic language
 - ☒ 2. interpersonal language
 - ☒ 3. speaking language
 - ☒ 4. vocational language

Question ID : 441009683837
Option 1 ID : 4410092689320
Option 2 ID : 4410092689323
Option 3 ID : 4410092689321
Option 4 ID : 4410092689322

Q.5 Identify whether the given statements are learning objectives or evaluation strategies in the context of a lesson plan.

- A. Students will be able to list the properties of acids and bases.
B. Students will be asked to list the properties of acids and bases.

- Ans
- ☒ 1. A and B are evaluation strategies
 - ☒ 2. A - learning objective ; B - evaluation strategy
 - ☒ 3. A - evaluation strategy ; B - learning objective
 - ☒ 4. A and B are learning objectives

Question ID : 441009940798
Option 1 ID : 4410093716848
Option 2 ID : 4410093716845
Option 3 ID : 4410093716847
Option 4 ID : 4410093716846

Q.6 A teacher uses a performance-based assessment to evaluate a student's ability to conduct a science experiment. Which technique best supports this assessment?

- Ans ☒ 1. Observation checklist
- ☒ 2. Standardised multiple-choice test
- ☒ 3. Word recall exercise
- ☒ 4. True-or-false quiz

Question ID : 441009940730
Option 1 ID : 4410093716575
Option 2 ID : 4410093716574
Option 3 ID : 4410093716576
Option 4 ID : 4410093716573

Q.7 What is the primary objective of dramatisation in education?

- Ans ☒ 1. To enhance experiential learning
- ☒ 2. To replace textbooks
- ☒ 3. To promote rote memorisation
- ☒ 4. To limit student participation

Question ID : 441009940716
Option 1 ID : 4410093716518
Option 2 ID : 4410093716520
Option 3 ID : 4410093716517
Option 4 ID : 4410093716519

Q.8 In the discussion method which of the following is NOT an essential part of a discussion?

- Ans ☒ 1. The schedule
- ☒ 2. A leader
- ☒ 3. The problem
- ☒ 4. The group

Question ID : 441009683824
Option 1 ID : 4410092689270
Option 2 ID : 4410092689268
Option 3 ID : 4410092689271
Option 4 ID : 4410092689269

Q.9 Which of the following is a key consideration in subject pedagogy planning?

- Ans ☒ 1. Aligning teaching strategies with learning objectives and student needs
- ☒ 2. Ignoring student diversity and prior knowledge
- ☒ 3. Teaching without a structured lesson plan
- ☒ 4. Focusing only on textbook content without engaging activities

Question ID : 441009683873
Option 1 ID : 4410092689465
Option 2 ID : 4410092689467
Option 3 ID : 4410092689466
Option 4 ID : 4410092689464

Q.10 Which of the following are the criteria for the selection of learning resources?

- A. Content should integrate real-world experiences.
- B. Technical design should be highly sophisticated.
- C. Instructional design promotes only self-learning.
- D. Resource should help promote the right attitudes related to diversity, inclusion and equity.

Ans ☒ 1. Only A and D

☒ 2. Only B and C

☒ 3. Only C and D

☒ 4. Only A and B

Question ID : 441009940781

Option 1 ID : 4410093716779

Option 2 ID : 4410093716778

Option 3 ID : 4410093716780

Option 4 ID : 4410093716777

Q.11 What is the primary difference between growth and development?

Ans ☒ 1. Growth is controlled by the environment, while development is controlled by genetics.

☒ 2. Growth refers to qualitative changes, while development refers to quantitative changes.

☒ 3. Growth occurs throughout life, while development stops at adulthood.

☒ 4. Growth is a physical change, while development includes physical, cognitive and emotional changes.

Question ID : 441009940723

Option 1 ID : 4410093716548

Option 2 ID : 4410093716545

Option 3 ID : 4410093716547

Option 4 ID : 4410093716546

Q.12 What is the primary purpose of setting learning objectives in a lesson plan?

Ans ☒ 1. To provide a clear direction for teaching and assessment

☒ 2. To make lessons more complex for students

☒ 3. To increase the length of the lesson plan

☒ 4. To ensure that only high-achieving students benefit

Question ID : 441009940754

Option 1 ID : 4410093716672

Option 2 ID : 4410093716670

Option 3 ID : 4410093716669

Option 4 ID : 4410093716671

Q.13 According to Piaget's theory of cognitive development, which stage is characterised by object permanence?

Ans ☒ 1. Formal operational stage

☒ 2. Concrete operational stage

☒ 3. Sensorimotor stage

☒ 4. Preoperational stage

Question ID : 441009683850

Option 1 ID : 4410092689375

Option 2 ID : 4410092689374

Option 3 ID : 4410092689373

Option 4 ID : 4410092689372

Q.14 The Rights of Persons with Disabilities (RPWD) Act, 2016, mandates specific provisions in India:

- Ans ☒ 1. Inclusive education with reasonable accommodations
☒ 2. Denial of education for children with disabilities
☒ 3. Exclusion of children with disabilities from mainstream education
☒ 4. Segregated education for children with disabilities

Question ID : 441009940727
Option 1 ID : 4410093716564
Option 2 ID : 4410093716562
Option 3 ID : 4410093716563
Option 4 ID : 4410093716561

Q.15 Which instructional model emphasises the selection and development of appropriate learning resources?

- Ans ☒ 1. Behaviorism Model
☒ 2. Classical Conditioning Model
☒ 3. ADDIE Model
☒ 4. Bloom's Taxonomy Model

Question ID : 441009940736
Option 1 ID : 4410093716597
Option 2 ID : 4410093716598
Option 3 ID : 4410093716600
Option 4 ID : 4410093716599

Q.16 According to inclusive education principles, what is the best placement for children with disabilities?

- Ans ☒ 1. Special schools separate from mainstream students
☒ 2. Vocational training only
☒ 3. Home-schooling without formal education
☒ 4. Inclusive classrooms with appropriate accommodations

Question ID : 441009940728
Option 1 ID : 4410093716565
Option 2 ID : 4410093716568
Option 3 ID : 4410093716566
Option 4 ID : 4410093716567

Q.17 Which of the following are the basic characteristics of the constructivist approach to learning?

- A. Learners construct their knowledge from their interaction, perception and experiences.
B. Textbooks and workbooks are essential for helping children in the process of constructing knowledge.
C. The learner's social and cultural background has an impact on knowledge construction.
D. Learners can construct their knowledge only when they listen to the teacher and make notes in class.

- Ans ☒ 1. Only A and C
☒ 2. Only A and B
☒ 3. Only A, B and C
☒ 4. Only B and D

Question ID : 441009940791
Option 1 ID : 4410093716818
Option 2 ID : 4410093716819
Option 3 ID : 4410093716817
Option 4 ID : 4410093716820

Q.18 Which of the following is the first step in language acquisition?

- Ans
- ☐ 1. Reading
 - ☐ 2. Speaking
 - ☒ 3. Listening
 - ☐ 4. Writing

Question ID : 441009683884
Option 1 ID : 4410092689509
Option 2 ID : 4410092689508
Option 3 ID : 4410092689510
Option 4 ID : 4410092689511

Q.19 Who wrote an interesting article called 'The Happy Meeting of Multiple Intelligences and the Arts'?

- Ans
- ☒ 1. Howard Gardner
 - ☐ 2. John Piaget
 - ☐ 3. Eisner
 - ☐ 4. Vygotsky

Question ID : 441009683804
Option 1 ID : 4410092689189
Option 2 ID : 4410092689188
Option 3 ID : 4410092689190
Option 4 ID : 4410092689191

Q.20 Summative assessment is primarily used to:

- Ans
- ☒ 1. evaluate student learning at the end of a unit or course
 - ☐ 2. provide real-time feedback during instruction
 - ☐ 3. help students revise their work
 - ☐ 4. promote collaborative learning

Question ID : 441009940734
Option 1 ID : 4410093716590
Option 2 ID : 4410093716589
Option 3 ID : 4410093716591
Option 4 ID : 4410093716592