AAI JE ATC Shift 1 Dec 27, 2023 Question Paper with Answers

Test Date	27/12/2023
Test Time	8:30 AM - 10:30 AM
Subject	JUNIOR EXECUTIVE AIR TRAFFIC CONTROL

Section : **General Knowledge**

Q.1 **Which of the following is not an alternative name for the Bangar Plains of Rajasthan?**

Ans
- ✗ 1. Shekhawati
- ✗ 2. Godwar Basin
- ✗ 3. Banas Basin
- ✓ 4. Ghaggar Basin

Question ID : **630680529921**
Option 1 ID : **6306802071609**
Option 2 ID : **6306802071608**
Option 3 ID : **6306802071611**
Option 4 ID : **6306802071610**
Status : **Answered**
Chosen Option : **1**

Q.2 **Which of the options below is a type of cruise missile?**

Ans
- ✓ 1. BrahMos
- ✗ 2. Sagarika (K-15)
- ✗ 3. Amogha
- ✗ 4. Shaurya

Question ID : **630680529892**
Option 1 ID : **6306802071494**
Option 2 ID : **6306802071493**
Option 3 ID : **6306802071492**
Option 4 ID : **6306802071495**
Status : **Answered**
Chosen Option : **1**

Q.3 In 2010 the design of which Indian single-engine multirole light aircraft was one by the Aeronautical Development Agency (ADA)?

Ans
- ✗ 1. Sukhoi
- ✓ 2. HAL Tejas
- ✗ 3. Dassault
- ✗ 4. Aswini

Question ID : **630680529908**
Option 1 ID : **6306802071559**
Option 2 ID : **6306802071558**
Option 3 ID : **6306802071557**
Option 4 ID : **6306802071556**
Status : **Answered**
Chosen Option : **2**

Q.4 Where can a "Constitutional Amendment Bill" be introduced?

Ans
- ✗ 1. Rajya Sabha
- ✗ 2. Lok Sabha
- ✓ 3. Either Rajya Sabha or Lok Sabha
- ✗ 4. Supreme Court of India

Question ID : **630680529916**
Option 1 ID : **6306802071588**
Option 2 ID : **6306802071589**
Option 3 ID : **6306802071591**
Option 4 ID : **6306802071590**
Status : **Answered**
Chosen Option : **4**

Q.5 Which of the following earth observation satellites was launched in 2020 by India's Polar Satellite Launch Vehicle?

Ans
- ✗ 1. POS-01
- ✗ 2. TOS-01
- ✗ 3. SOS-01
- ✓ 4. EOS-01

Question ID : **630680529902**
Option 1 ID : **6306802071532**
Option 2 ID : **6306802071534**
Option 3 ID : **6306802071535**
Option 4 ID : **6306802071533**
Status : **Answered**
Chosen Option : **1**

Q.6 Pattachitra is associated with which state?

Ans
- ✗ 1. Tamil Nadu
- ✗ 2. Telangana
- ✗ 3. Andhra Pradesh
- ✓ 4. Odisha

Question ID : **630680529895**
Option 1 ID : **6306802071507**
Option 2 ID : **6306802071506**
Option 3 ID : **6306802071504**
Option 4 ID : **6306802071505**
Status : **Answered**
Chosen Option : **3**

Q.7 Where specifically was the copper chariot from the Harappan period discovered?

Ans
- ✓ 1. Daimabad
- ✗ 2. Indus
- ✗ 3. Jhelum
- ✗ 4. Sindh

Question ID : **630680529900**
Option 1 ID : **6306802071524**
Option 2 ID : **6306802071527**
Option 3 ID : **6306802071525**
Option 4 ID : **6306802071526**
Status : **Answered**
Chosen Option : **4**

Q.8 According to the Minimum Wages Act of 2021, what proportion of tea plantation employees in Assam are considered permanent?

Ans
- ✗ 1. 20
- ✗ 2. 38
- ✗ 3. 40
- ✓ 4. 39

Question ID : **630680529905**
Option 1 ID : **6306802071545**
Option 2 ID : **6306802071547**
Option 3 ID : **6306802071544**
Option 4 ID : **6306802071546**
Status : **Answered**
Chosen Option : **3**

Q.9 What additional option does the 2019 Constitution (103rd Amendment) Act provide?

Ans
- ✗ 1. It gave constitutional status to backward classes
- ✗ 2. It introduced the goods and services tax in the country
- ✓ 3. It provided a maximum of 10% reservation for the economically weaker sections
- ✗ 4. It extended the seats for Schedule Class and Schedule Tribe

Question ID : **630680529913**
Option 1 ID : **6306802071577**
Option 2 ID : **6306802071578**
Option 3 ID : **6306802071579**
Option 4 ID : **6306802071576**
Status : **Answered**
Chosen Option : **1**

Q.10 Which state is associated with the Yakshagana?

Ans
- ✓ 1. Karnataka
- ✗ 2. Andhra Pradesh
- ✗ 3. Gujarat
- ✗ 4. Rajasthan

Question ID : **630680529901**
Option 1 ID : **6306802071531**
Option 2 ID : **6306802071530**
Option 3 ID : **6306802071528**
Option 4 ID : **6306802071529**
Status : **Answered**
Chosen Option : **1**

Q.1 A is the father of B. B is the father of C. C is the brother of D. D is the husband of E. How is E related to B?

Ans
✔ 1. Daughter in law
✗ 2. Daughter
✗ 3. Brother's wife
✗ 4. Sister

Question ID : **630680529932**
Option 1 ID : **6306802071654**
Option 2 ID : **6306802071652**
Option 3 ID : **6306802071655**
Option 4 ID : **6306802071653**
Status : **Answered**
Chosen Option : **1**

Q.2 If 'p' means '×', 'q' means '-', 'r' means '÷' and 's' means '+', then which of the following equation is NOT correct?
I. 44 s 51 r 17 q 20 p 4 = -31
II. 57 r 19 s 5 p 10 q 18 = 35

Ans
✗ 1. Neither I nor II
✔ 2. Only I
✗ 3. Only II
✗ 4. Both I and II

Question ID : **630680529963**
Option 1 ID : **6306802071775**
Option 2 ID : **6306802071772**
Option 3 ID : **6306802071773**
Option 4 ID : **6306802071774**
Status : **Answered**
Chosen Option : **2**

Q.3 In the following question, select the missing number from the given series.
211, 206, ?, 200, 223, 194, 229

Ans
✔ 1. 217
✗ 2. 219
✗ 3. 220
✗ 4. 215

Question ID : **630680529933**
Option 1 ID : **6306802071656**
Option 2 ID : **6306802071657**
Option 3 ID : **6306802071659**
Option 4 ID : **6306802071658**
Status : **Answered**
Chosen Option : **1**

Q.4 Weight of five bats B1, B2, B3, B4 and B5 is compared. Weight of B4 is more than B1 and less than B2. Weight of B5 is more than B3. Weight of B2 is less than B3. Whose weight is more than B4 but less than B3?

I. B2

II. B1

Ans

✔ 1. Only I

✘ 2. Only II

✘ 3. Neither I nor II

✘ 4. Both I and II

Question ID : **630680529927**
Option 1 ID : **6306802071632**
Option 2 ID : **6306802071633**
Option 3 ID : **6306802071635**
Option 4 ID : **6306802071634**
Status : **Answered**
Chosen Option : **1**

Q.5 In the following question below are given some statements followed by some conclusions based on those statements. Taking the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusion logically follows the given statements.

Statements:

I. Some red are black.

II. No blue is red.

Conclusion:

I. No blue is black.

II. No red is blue.

Ans

✘ 1. Neither conclusion follows.

✘ 2. Only conclusion I follows.

✔ 3. Only conclusion II follows.

✘ 4. Both conclusions I and II follows.

Question ID : **630680529926**
Option 1 ID : **6306802071631**
Option 2 ID : **6306802071628**
Option 3 ID : **6306802071629**
Option 4 ID : **6306802071630**
Status : **Answered**
Chosen Option : **3**

Q.6 Eight friends – S, T, U, V, W, X, Y and Z are sitting around a square table facing the centre. They sit in such a way that four of them sit at four corners of the square while four sit in the middle of each of the four sides. Only Z sits between S and X. S sits in the middle of one of the sides. V sits third to the right of X. Both Y and Z are immediate neighbours of S. T sits second to left of U. Who sits third to the left of X?

Ans

✘ 1. W

✘ 2. U

✘ 3. T

✔ 4. Y

Question ID : **630680529939**
Option 1 ID : **6306802071683**
Option 2 ID : **6306802071681**
Option 3 ID : **6306802071682**
Option 4 ID : **6306802071680**
Status : **Answered**
Chosen Option : **4**

Q.7 What approximate value will come in place of (x)?

$\sqrt{628.08} \times (2.75 \times 3.01) = x$

Ans

✗ 1. 236

✗ 2. 220

✗ 3. 218

✓ 4. 225

Question ID : **630680529934**
Option 1 ID : **6306802071660**
Option 2 ID : **6306802071663**
Option 3 ID : **6306802071662**
Option 4 ID : **6306802071661**
Status : **Answered**
Chosen Option : **4**

Q.8 In the following question, four letter pairs are given. The letters on left side of (–) is related to the letters on the right side of (–) with some Logic/Rule/Relation. Three are similar on basis of same Logic/Rule/Relation. Select the odd one out from the given alternatives.

Ans

✗ 1. MJSQ – RQKK

✗ 2. GDMK – LKEE

✓ 3. MTYJ – KVWK

✗ 4. WTCA – BAUU

Question ID : **630680529948**
Option 1 ID : **6306802071716**
Option 2 ID : **6306802071719**
Option 3 ID : **6306802071717**
Option 4 ID : **6306802071718**
Status : **Answered**
Chosen Option : **3**

Q.9 In a certain code language, 'BOTTOM' is written as 'OBTTMO' and 'PROMPT' is written as 'RPMOTP'. What is the code for 'APPEAR' in that code language?

Ans

✗ 1. PAEQRA

✗ 2. PAEPAR

✗ 3. PAPERA

✓ 4. PAEPRA

Question ID : **630680529946**
Option 1 ID : **6306802071711**
Option 2 ID : **6306802071709**
Option 3 ID : **6306802071708**
Option 4 ID : **6306802071710**
Status : **Answered**
Chosen Option : **4**

Q.10 In the word 'REYNOLS' all the letters are replaced by the letter which 4 places before it as per the English alphabetical order. What will be the 5th alphabet in the newly formed word from the right end?

Ans

✗ 1. A

✓ 2. U

✗ 3. H

✗ 4. J

Question ID : **630680529929**
Option 1 ID : **6306802071640**
Option 2 ID : **6306802071643**
Option 3 ID : **6306802071641**
Option 4 ID : **6306802071642**
Status : **Answered**
Chosen Option : **2**

Q.11 What approximate value will come in place of (?)?

$16.02 \times \{(16.03)^2\}^{\frac{1}{4}} + 31.96 \times 8.08 = ? \times 7.43$

Ans

✗ 1. 35

✗ 2. 80

✗ 3. 60

✓ 4. 40

Question ID : **630680529936**
Option 1 ID : **6306802071671**
Option 2 ID : **6306802071668**
Option 3 ID : **6306802071669**
Option 4 ID : **6306802071670**
Status : **Answered**
Chosen Option : **4**

Q.12 7 persons M, N, O, P, Q, R and S are sitting in a row facing towards south (not necessarily in the same order). R is not at the extreme end of the row. P sits at 5th position to the right of M. Two person is sitting between M and R. P and R is not an immediate neighbour of each other. S is sitting at second position from the left of R. N sits at 4th position to the right of O. Who is at the 3rd position from left end and right end respectively?

Ans

✗ 1. S, P

✓ 2. O, Q

✗ 3. Q, R

✗ 4. O, P

Question ID : **630680529924**
Option 1 ID : **6306802071623**
Option 2 ID : **6306802071620**
Option 3 ID : **6306802071622**
Option 4 ID : **6306802071621**
Status : **Answered**
Chosen Option : **2**

Q.13 A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
RQR, XZE, DIR, JRE, ?

Ans

✗ 1. PRM
✗ 2. RAR
✗ 3. RQT
✓ 4. PAR

Question ID : **630680529928**
Option 1 ID : **6306802071639**
Option 2 ID : **6306802071637**
Option 3 ID : **6306802071636**
Option 4 ID : **6306802071638**
Status : **Answered**
Chosen Option : **4**

Q.14 Consider the five three digit numbers given below and then answer the questions based on it.
(Left) 386 483 428 653 549 (Right)
Hundreds place digit of the left most number and the tens digit of right most number are added. What will be the value of the square of the resultant sum?

Ans

✓ 1. 49
✗ 2. 25
✗ 3. 36
✗ 4. 64

Question ID : **630680529930**
Option 1 ID : **6306802071646**
Option 2 ID : **6306802071645**
Option 3 ID : **6306802071647**
Option 4 ID : **6306802071644**
Status : **Answered**
Chosen Option : **1**

Q.15 In the following question, select the related letter pair from the given alternatives.
BZWY : AXTU :: ?

Ans

✓ 1. IPVZ : HNSV
✗ 2. MOPR : PQRT
✗ 3. RUVH : LMOC
✗ 4. NDAT : MBYQ

Question ID : **630680529960**
Option 1 ID : **6306802071763**
Option 2 ID : **6306802071761**
Option 3 ID : **6306802071760**
Option 4 ID : **6306802071762**
Status : **Answered**
Chosen Option : **1**

Section : **General Aptitude**

Q.1 Seven friends spent Rs. 24 each on a project and the eighth friend spent Rs. 35 more than the average expenditure of all eight of them. What is the total money spent by them?

Ans

1. ✗ Rs. 192
2. ✗ Rs. 280
3. ✓ Rs. 232
4. ✗ Rs. 216

Question ID : **630680529977**
Option 1 ID : **6306802071832**
Option 2 ID : **6306802071835**
Option 3 ID : **6306802071833**
Option 4 ID : **6306802071834**
Status : **Answered**
Chosen Option : **2**

Q.2 The marked price of a shirt is Rs. 2000. If the shirt is being sold for Rs. 1300, then what is the discount percentage?

Ans

1. ✗ 25 percent
2. ✗ 37 percent
3. ✗ 30 percent
4. ✓ 35 percent

Question ID : **630680529992**
Option 1 ID : **6306802071895**
Option 2 ID : **6306802071892**
Option 3 ID : **6306802071894**
Option 4 ID : **6306802071893**
Status : **Answered**
Chosen Option : **4**

Q.3 A sum of Rs. 500 becomes Rs. 580 at simple interest in 2 years. In how many years will the sum of Rs. 660 amounts to Rs. 924 at the same rate of simple interest?

Ans

1. ✗ 7 years
2. ✗ 9 years
3. ✓ 5 years
4. ✗ 3 years

Question ID : **630680529996**
Option 1 ID : **6306802071909**
Option 2 ID : **6306802071911**
Option 3 ID : **6306802071908**
Option 4 ID : **6306802071910**
Status : **Answered**
Chosen Option : **3**

Q.4 What is the average of 180, 230, 244, 180 and 596?

Ans

✗ 1. 296

✓ 2. 288

✗ 3. 266

✗ 4. 230

Question ID : **630680529976**
Option 1 ID : **6306802071828**
Option 2 ID : **6306802071830**
Option 3 ID : **6306802071831**
Option 4 ID : **6306802071829**
Status : **Answered**
Chosen Option : **2**

Q.5 The difference between cost price and selling price is Rs. 231. If profit percentage is 21 percent, then what is the selling price?

Ans

✗ 1. Rs. 1428

✓ 2. Rs. 1331

✗ 3. Rs. 1111

✗ 4. Rs. 1560

Question ID : **630680529980**
Option 1 ID : **6306802071845**
Option 2 ID : **6306802071844**
Option 3 ID : **6306802071846**
Option 4 ID : **6306802071847**
Status : **Answered**
Chosen Option : **2**

Q.6 A truck left 1 hour early than the scheduled time and in order to reach its destination 840 km away on time, it had to decrease its usual speed by 4 km/hr. What is the usual speed of the truck?

Ans

✗ 1. 75 km/hr

✓ 2. 60 km/hr

✗ 3. 80 km/hr

✗ 4. 50 km/hr

Question ID : **630680529998**
Option 1 ID : **6306802071918**
Option 2 ID : **6306802071917**
Option 3 ID : **6306802071919**
Option 4 ID : **6306802071916**
Status : **Answered**
Chosen Option : **3**

Q.7 The average weight of two players X and Y of a football team is 39 kg. The average weight of X, Y and their coach Z is 49 kg. What is the weight of coach?

Ans

✔ 1. 69 kg

✗ 2. 72 kg

✗ 3. 58 kg

✗ 4. 64 kg

Question ID : **630680530025**
Option 1 ID : **6306802072026**
Option 2 ID : **6306802072027**
Option 3 ID : **6306802072024**
Option 4 ID : **6306802072025**
Status : **Answered**
Chosen Option : **1**

Q.8 40 percent of the cost price of an article is equal to the 25 percent of its selling price. What is the profit percentage?

Ans

✔ 1. 60 percent

✗ 2. 160 percent

✗ 3. 50 percent

✗ 4. 100 percent

Question ID : **630680529979**
Option 1 ID : **6306802071842**
Option 2 ID : **6306802071843**
Option 3 ID : **6306802071840**
Option 4 ID : **6306802071841**
Status : **Answered**
Chosen Option : **1**

Q.9 A train starts from a place S at 10:00 a.m. and arrives at another place T at 1:30 p.m. on the same day. If the speed of the train is 35 m/s, then what will be the distance covered by the train?

Ans

✔ 1. 441 km

✗ 2. 450 km

✗ 3. 484 km

✗ 4. 576 km

Question ID : **630680529999**
Option 1 ID : **6306802071921**
Option 2 ID : **6306802071923**
Option 3 ID : **6306802071920**
Option 4 ID : **6306802071922**
Status : **Answered**
Chosen Option : **3**

Q.10 What is the value of $\frac{2}{3} \div \frac{4}{27} - \frac{1}{2} \times \frac{4}{5} + \frac{2}{7} \div \frac{10}{21}$?

Ans
1. 2.7
2. 5.2
3. 4.5
4. 4.7

Question ID : **630680529985**
Option 1 ID : **6306802071865**
Option 2 ID : **6306802071867**
Option 3 ID : **6306802071866**
Option 4 ID : **6306802071864**
Status : **Answered**
Chosen Option : **4**

Q.11 Which one is the largest among the fractions $\left(\frac{4}{9}\right)$, $\left(\frac{5}{8}\right)$, $\left(\frac{2}{3}\right)$ and $\left(\frac{3}{4}\right)$?

Ans
1. $\frac{3}{4}$
2. $\frac{2}{3}$
3. $\frac{5}{8}$
4. $\frac{4}{9}$

Question ID : **630680529986**
Option 1 ID : **6306802071871**
Option 2 ID : **6306802071870**
Option 3 ID : **6306802071869**
Option 4 ID : **6306802071868**
Status : **Answered**
Chosen Option : **1**

Q.12 If P : Q = 3 : 4, Q : R = 5 : 2 and R : S = 3 : 2, then what is the value of P : R : S?

Ans
1. 20 : 13 : 15
2. 45 : 24 : 16
3. 24 : 45 : 16
4. 15 : 8 : 24

Question ID : **630680529981**
Option 1 ID : **6306802071851**
Option 2 ID : **6306802071849**
Option 3 ID : **6306802071850**
Option 4 ID : **6306802071848**
Status : **Answered**
Chosen Option : **2**

Q.13 The difference between circumference and the diameter of a circle is 21.4 cm. What is the area of the circle?

Ans

1. ✗ 40π cm^2
2. ✗ 35π cm^2
3. ✗ 27π cm^2
4. ✓ $25\ \pi$ cm^2

Question ID : **630680529982**
Option 1 ID : **6306802071854**
Option 2 ID : **6306802071853**
Option 3 ID : **6306802071855**
Option 4 ID : **6306802071852**
Status : **Answered**
Chosen Option : **4**

Q.14 Shreyas can complete 4/5 part of a work in 20 days. Ruchi is 2.5 times as efficient as Shreyas. In how many days will Ruchi alone complete the same work?

Ans

1. ✗ 9 days
2. ✗ 11 days
3. ✓ 10 days
4. ✗ 12 days

Question ID : **630680530000**
Option 1 ID : **6306802071925**
Option 2 ID : **6306802071924**
Option 3 ID : **6306802071926**
Option 4 ID : **6306802071927**
Status : **Answered**
Chosen Option : **2**

Q.15 If P is 9 times more than Q, then Q is what percentage less than P?

Ans

1. ✗ 87.5 percent
2. ✗ 10 percent
3. ✗ 11.11 percent
4. ✓ 90 percent

Question ID : **630680529978**
Option 1 ID : **6306802071838**
Option 2 ID : **6306802071839**
Option 3 ID : **6306802071836**
Option 4 ID : **6306802071837**
Status : **Answered**
Chosen Option : **3**

Section : **General English**

Q.1 **Identify the option in which the proverb correctly fits the context of the given sentence.**

Ans

✗ 1. He believes the average consumer sees red by the promises in advertisements.

✗ 2. He believes the average consumer is made to pay through their nose by the promises in advertisements.

✗ 3. He believes the average consumer takes something to heart by the promises in advertisements.

✓ 4. He believes the average consumer is being led down the garden path by the promises in advertisements.

Question ID : **630680530062**
Option 1 ID : **6306802072176**
Option 2 ID : **6306802072173**
Option 3 ID : **6306802072175**
Option 4 ID : **6306802072174**
Status : **Answered**
Chosen Option : **4**

Q.2 **Select the grammatically correct sentence.**

Ans

✗ 1. I was having a headache.

✓ 2. I have a headache.

✗ 3. I am having a headache.

✗ 4. I has a headache.

Question ID : **630680530045**
Option 1 ID : **6306802072108**
Option 2 ID : **6306802072106**
Option 3 ID : **6306802072105**
Option 4 ID : **6306802072107**
Status : **Answered**
Chosen Option : **3**

Q.3 **Select the most appropriate synonym of the underlined word.**
The sunrise at Kanyakumari is gorgeous.

Ans

✗ 1. Enticing

✗ 2. Beguiling

✓ 3. Lovely

✗ 4. Deterring

Question ID : **630680530071**
Option 1 ID : **6306802072210**
Option 2 ID : **6306802072209**
Option 3 ID : **6306802072211**
Option 4 ID : **6306802072212**
Status : **Answered**
Chosen Option : **3**

Q.4 **Identify the option in which the idiom correctly fits the context of the given sentence.**

Ans

✗ 1. Jack has been here for years – he'll turn over a new leaf.

✓ 2. Jack has been here for years – he'll show you the ropes.

✗ 3. Jack has been here for years – he'll get something off.

✗ 4. Jack has been here for years – he 'll see red.

Question ID : **630680530055**
Option 1 ID : **6306802072148**
Option 2 ID : **6306802072146**
Option 3 ID : **6306802072147**
Option 4 ID : **6306802072145**
Status : **Answered**
Chosen Option : **3**

Q.5 Identify the adjective that can be placed alongside the underlined word to complete the given sentence.
The child sang for about five minutes and there was a _____ applause after that.

Ans
1. trembling
2. tremendous
3. wild
4. rare

Question ID : **630680530037**
Option 1 ID : **6306802072073**
Option 2 ID : **6306802072074**
Option 3 ID : **6306802072075**
Option 4 ID : **6306802072076**
Status : **Answered**
Chosen Option : **1**

Q.6 Select the most appropriate synonym of the underlined word.
The design on the hand-woven shawl was beautiful.

Ans
1. Affable
2. Agreeable
3. Amiable
4. Exquisite

Question ID : **630680530075**
Option 1 ID : **6306802072227**
Option 2 ID : **6306802072225**
Option 3 ID : **6306802072228**
Option 4 ID : **6306802072226**
Status : **Answered**
Chosen Option : **3**

Q.7 Select the grammatically correct sentence.

Ans
1. The police will have to cancel the driving license if you break the rules again.
2. The police will cancel your driving license if you will break the rules again.
3. The police will cancel your driving license if you are breaking the rules again.
4. The police will have to cancel the driving license if you will break the rules again.

Question ID : **630680530043**
Option 1 ID : **6306802072100**
Option 2 ID : **6306802072097**
Option 3 ID : **6306802072098**
Option 4 ID : **6306802072099**
Status : **Answered**
Chosen Option : **2**

Q.8 Identify the option in which the idiom correctly fits the context of the given sentence.

Ans
1. In mystery tales, the readers take a leaf out of someone's book.
2. In mystery tales, the readers often hold the fort.
3. In mystery tales, the readers pay through the nose.
4. In mystery tales, the readers are often led up the garden path.

Question ID : **630680530059**
Option 1 ID : **6306802072164**
Option 2 ID : **6306802072163**
Option 3 ID : **6306802072161**
Option 4 ID : **6306802072162**
Status : **Answered**
Chosen Option : **1**

Q.9 Select the most appropriate ANTONYM of the underlined word.
I thanked the editor for carefully reading the paper and pointing out several <u>oversights.</u>

Ans
✗ 1. Errors
✓ 2. Precision
✗ 3. Anticipation
✗ 4. Negligence

Question ID : **630680530065**
Option 1 ID : **6306802072185**
Option 2 ID : **6306802072187**
Option 3 ID : **6306802072188**
Option 4 ID : **6306802072186**
Status : **Answered**
Chosen Option : **2**

Q.10 Select the most appropriate synonym of the underlined word.
The handmade chocolates were <u>heavenly</u>.

Ans
✗ 1. Dull
✗ 2. Mundane
✗ 3. Dazzling
✓ 4. Delectable

Question ID : **630680530072**
Option 1 ID : **6306802072216**
Option 2 ID : **6306802072215**
Option 3 ID : **6306802072213**
Option 4 ID : **6306802072214**
Status : **Answered**
Chosen Option : **3**

Q.11 Select the most appropriate option to fill in the blank.
There are many large shops in _____.

Ans
✗ 1. the Oxford Street
✗ 2. a Oxford Street
✗ 3. an Oxford Street
✓ 4. Oxford Street

Question ID : **630680530031**
Option 1 ID : **6306802072050**
Option 2 ID : **6306802072049**
Option 3 ID : **6306802072051**
Option 4 ID : **6306802072052**
Status : **Answered**
Chosen Option : **4**

Comprehension:

Read the given passage and answer the questions that follow.

The word 'sport' stands for five elements - sincerity, punctuality, obedience, regularity and tenacity. These are also the essential qualities of a person to prosper in life. So, sport is a way to physical fitness, and so it has an important role in men's life.
The proverb runs "All work and no play make Jack a dull boy." It tells upon our nerves and we lose our enthusiasm. Sports can refresh us and supply fresh vigour. It makes someone physically fit and mentally alert. It must be remembered that wealth or education is of little use to a person who suffers from ill-health. So physical exercise is a must. But it varies according to age and sex of an individual. Everybody can select a sport of his own choice and take part in it. But over exercise and wrong choice of exercise may be harmful. In this respect, the advice of an expert in physical education is quite useful. Walking and deep breathing are also good exercises. A few minutes and a small open space are enough for it. The importance of sports and games have been acclaimed by medical science. Sports and exercise help us to remain fit and live longer. They shape and tone our body muscles and as a result the possibilities of muscular sprains are minimised. Besides, sport is an excellent source of recreation. It freshens our mind and enlivens our spirit. There are different kinds of sports like football, cricket, athletics, swimming, tennis, etc. Different people may have different choices regarding them. Even some indoor sports like table tennis or badminton keep body fit while playing chess increases one's intelligence and concentration.

SubQuestion No : 12

Q.12 Which of the following words from the passage means 'determination'?

Ans

✗ 1. Punctuality

✗ 2. Enthusiasm

✓ 3. Tenacity

✗ 4. Sincerity

Question ID : **630680530082**
Option 1 ID : **6306802072250**
Option 2 ID : **6306802072252**
Option 3 ID : **6306802072251**
Option 4 ID : **6306802072249**
Status : **Answered**
Chosen Option : **1**

Comprehension:

Read the given passage and answer the questions that follow.

The word 'sport' stands for five elements - sincerity, punctuality, obedience, regularity and tenacity. These are also the essential qualities of a person to prosper in life. So, sport is a way to physical fitness, and so it has an important role in men's life.
The proverb runs "All work and no play make Jack a dull boy." It tells upon our nerves and we lose our enthusiasm. Sports can refresh us and supply fresh vigour. It makes someone physically fit and mentally alert. It must be remembered that wealth or education is of little use to a person who suffers from ill-health. So physical exercise is a must. But it varies according to age and sex of an individual. Everybody can select a sport of his own choice and take part in it. But over exercise and wrong choice of exercise may be harmful. In this respect, the advice of an expert in physical education is quite useful. Walking and deep breathing are also good exercises. A few minutes and a small open space are enough for it. The importance of sports and games have been acclaimed by medical science. Sports and exercise help us to remain fit and live longer. They shape and tone our body muscles and as a result the possibilities of muscular sprains are minimised. Besides, sport is an excellent source of recreation. It freshens our mind and enlivens our spirit. There are different kinds of sports like football, cricket, athletics, swimming, tennis, etc. Different people may have different choices regarding them. Even some indoor sports like table tennis or badminton keep body fit while playing chess increases one's intelligence and concentration.

SubQuestion No : 13

Q.13 According to the author, which of the following life goals CANNOT be achieved by sports?

Ans

✗ 1. Healthy body

✓ 2. Dullness of spirit

✗ 3. Mental health

✗ 4. Physical fitness

Question ID : **630680530081**
Option 1 ID : **6306802072246**
Option 2 ID : **6306802072248**
Option 3 ID : **6306802072247**
Option 4 ID : **6306802072245**
Status : **Answered**
Chosen Option : **2**

Comprehension:

Read the given passage and answer the questions that follow.

The word 'sport' stands for five elements - sincerity, punctuality, obedience, regularity and tenacity. These are also the essential qualities of a person to prosper in life. So, sport is a way to physical fitness, and so it has an important role in men's life.
The proverb runs "All work and no play make Jack a dull boy." It tells upon our nerves and we lose our enthusiasm. Sports can refresh us and supply fresh vigour. It makes someone physically fit and mentally alert. It must be remembered that wealth or education is of little use to a person who suffers from ill-health. So physical exercise is a must. But it varies according to age and sex of an individual. Everybody can select a sport of his own choice and take part in it. But over exercise and wrong choice of exercise may be harmful. In this respect, the advice of an expert in physical education is quite useful. Walking and deep breathing are also good exercises. A few minutes and a small open space are enough for it. The importance of sports and games have been acclaimed by medical science. Sports and exercise help us to remain fit and live longer. They shape and tone our body muscles and as a result the possibilities of muscular sprains are minimised. Besides, sport is an excellent source of recreation. It freshens our mind and enlivens our spirit. There are different kinds of sports like football, cricket, athletics, swimming, tennis, etc. Different people may have different choices regarding them. Even some indoor sports like table tennis or badminton keep body fit while playing chess increases one's intelligence and concentration.

SubQuestion No : 14

Q.14 What does the proverb 'All work and no play make Jack a dull boy' mean?

Ans

✗ 1. The life of a sportsman is different from the dull life of an ordinary individual.

✗ 2. Lifelong slogging can lead to ill health.

✗ 3. Sportsmen are physically and mentally alert.

✓ 4. Life without any physical activity tells upon our nerves and we lose our enthusiasm.

Question ID : **630680530083**
Option 1 ID : **6306802072253**
Option 2 ID : **6306802072256**
Option 3 ID : **6306802072255**
Option 4 ID : **6306802072254**
Status : **Answered**
Chosen Option : **4**

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. And we don't just want to talk about it, but make sure it is real.
B. This is false and has to stop. For the record, feminism is: "The belief that men and women should have equal rights and opportunities."
C. This is the first campaign of its kind at the UN: we want to try and galvanise as many men and boys as possible to be advocates for gender equality.
D. I have been a Goodwill ambassador for six months and the more I have spoken about feminism the more I have realised that many people believe that fighting for women's rights is equal to hating men.
E. I want to talk to you because I need your help. We want to end gender inequality-and to do that we need everyone to be involved.

Ans

✓ 1. ECADB

✗ 2. EACBD

✗ 3. CBADE

✗ 4. DEBAC

Question ID : **630680530049**
Option 1 ID : **6306802072122**
Option 2 ID : **6306802072123**
Option 3 ID : **6306802072121**
Option 4 ID : **6306802072124**
Status : **Answered**
Chosen Option : **4**

Q.16 Select the most appropriate abstract noun to fill in the blank.
She looked at him with great _____.

Ans
✗ 1. arbitration
✓ 2. adoration
✗ 3. generation
✗ 4. dedication

Question ID : **630680530041**
Option 1 ID : **6306802072089**
Option 2 ID : **6306802072090**
Option 3 ID : **6306802072092**
Option 4 ID : **6306802072091**
Status : **Answered**
Chosen Option : **2**

Q.17 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. Surveys and online polls indicate that the prevalence of veganism has risen worldwide in the last few years. According to these sources, 6% of the US population follows a strict plant- based. i.e., vegan diet, compared to up to 4% in Europe and 13% in Asia.
B. Replacing animal sources, namely red meat and milk, with plant-based sources has the potential to have an impact on cutting greenhouse gas emissions.
C. And though the motivations for following a vegan diet are diverse, including animal welfare, religious aspects, and environmental sustainability, one important reason is health benefits.
D. A transition toward healthy and environmentally sustainable food is among major global challenges.
E. That is a reason for the growing popularity of diets eliminating or reducing meat, milk, dairy and eggs, especially in wealthy developed countries. A vegan diet, strictly excluding all kinds of animal-derived foods, has gained popularity and is of immense public health interest.

Ans
✗ 1. ACEBD
✗ 2. DAECB
✗ 3. ADBEC
✓ 4. DBEAC

Question ID : **630680530052**
Option 1 ID : **6306802072136**
Option 2 ID : **6306802072135**
Option 3 ID : **6306802072134**
Option 4 ID : **6306802072133**
Status : **Answered**
Chosen Option : **2**

Q.18 Select the most appropriate option to fill in the blank.
_____ is a series of passenger train services in India, operated by Indian Railways, connecting New Delhi to the capitals of various states.

Ans
✗ 1. A Rajdhani Express
✓ 2. The Rajdhani Express
✗ 3. Rajdhani
✗ 4. An Rajdhani Express

Question ID : **630680530033**
Option 1 ID : **6306802072057**
Option 2 ID : **6306802072058**
Option 3 ID : **6306802072059**
Option 4 ID : **6306802072060**
Status : **Answered**
Chosen Option : **3**

Q.19 **Select the most appropriate ANTONYM of the underlined word.**
The governor faced <u>hostile</u> crowds when he visited the town yesterday.

Ans
✗ 1. Adverse
✗ 2. Hospitable
✗ 3. Intimidating
✓ 4. Welcoming

Question ID : **630680530068**
Option 1 ID : **6306802072199**
Option 2 ID : **6306802072197**
Option 3 ID : **6306802072198**
Option 4 ID : **6306802072200**
Status : **Answered**
Chosen Option : **4**

Q.20 **Select the correctly spelt word.**

Ans
✗ 1. Rondenvous
✗ 2. Rondenvos
✗ 3. Rendenvus
✓ 4. Rendezvous

Question ID : **630680530076**
Option 1 ID : **6306802072230**
Option 2 ID : **6306802072232**
Option 3 ID : **6306802072229**
Option 4 ID : **6306802072231**
Status : **Answered**
Chosen Option : **1**

Section : **Domain Knowledge**

Q.1 An AC source (220V, 50 Hz) is applied to a series LCR circuit ($R = 12\Omega$, $X_L = 32\Omega$ and $X_C = 16\Omega$). Symbols have their usual meanings. The power dissipated and the power factor, respectively, are:

Ans
✗ 1. 726 W, 0.6
✗ 2. 1.452 kW, 0.4
✗ 3. 726 W, 0.4
✓ 4. 1.452 kW, 0.6

Question ID : **630680530131**
Option 1 ID : **6306802072438**
Option 2 ID : **6306802072439**
Option 3 ID : **6306802072437**
Option 4 ID : **6306802072440**
Status : **Answered**
Chosen Option : **2**

Q.2 What is the square root of $z = 7 - 24i$?

Ans
1. $\pm(4 + 3i)$
2. $\pm(4i - 3)$
3. $\pm(4i + 3)$
4. $\pm(4 - 3i)$

Question ID : **630680530103**
Option 1 ID : **6306802072326**
Option 2 ID : **6306802072327**
Option 3 ID : **6306802072328**
Option 4 ID : **6306802072325**
Status : **Answered**
Chosen Option : **3**

Q.3 Three blocks A (5.0 kg), B (3.0 kg) and C (2.0 kg) lie on a horizontal smooth surface. They are connected by light strings parallel to the surface. Block C is pulled horizontally with a force of 50 N. Let T_1 and T_2 be the tensions in string connecting A to B and B to C, respectively. Then (T_2/T_1) is:

Ans
1. $\frac{8}{5}$
2. $\frac{4}{3}$
3. $\frac{3}{4}$
4. $\frac{5}{8}$

Question ID : **630680530141**
Option 1 ID : **6306802072480**
Option 2 ID : **6306802072479**
Option 3 ID : **6306802072478**
Option 4 ID : **6306802072477**
Status : **Answered**
Chosen Option : **2**

Q.4 Which of the following represents an empty set?

Ans
1. Set of Months of a year starting with the letter A
2. Set of Vowels in the word SYNCH
3. Set of Prime numbers lesser than 10
4. Set of Consonants in the word GIRLS

Question ID : **630680530124**
Option 1 ID : **6306802072411**
Option 2 ID : **6306802072410**
Option 3 ID : **6306802072412**
Option 4 ID : **6306802072409**
Status : **Answered**
Chosen Option : **2**

Q.5 What is the equation of an ellipse whose focus is at (3, 0) and length of its major axis is 10?

Ans

✔ 1. $\frac{x^2}{25}+\frac{y^2}{16}=1$

✗ 2. $\frac{x^2}{9}+\frac{y^2}{10}=1$

✗ 3. $\frac{x^2}{25}-\frac{y^2}{16}=1$

✗ 4. $\frac{x^2}{16}+\frac{y^2}{25}=1$

Question ID : **630680530105**
Option 1 ID : **6306802072335**
Option 2 ID : **6306802072336**
Option 3 ID : **6306802072334**
Option 4 ID : **6306802072333**
Status : **Answered**
Chosen Option : **2**

Q.6 Meena is driving a car of mass m along a circular path of radius R. The coefficient of static friction between the tyres of the car and the road is μ. The maximum speed with which she can drive the car without slipping is (g = acceleration due to gravity):

Ans

✔ 1. $\sqrt{\mu Rg}$

✗ 2. $2\sqrt{\mu Rg}$

✗ 3. $\sqrt{2\mu Rg}$

✗ 4. $\sqrt{(Rg)/\mu}$

Question ID : **630680530138**
Option 1 ID : **6306802072465**
Option 2 ID : **6306802072467**
Option 3 ID : **6306802072466**
Option 4 ID : **6306802072468**
Status : **Answered**
Chosen Option : **4**

Q.7 Which of the following spectral series lies in the visible region of hydrogen spectrum?

Ans

✗ 1. Brackett series

✗ 2. Paschen series

✗ 3. Lyman series

✔ 4. Balmer series

Question ID : **630680530142**
Option 1 ID : **6306802072484**
Option 2 ID : **6306802072483**
Option 3 ID : **6306802072481**
Option 4 ID : **6306802072482**
Status : **Answered**
Chosen Option : **3**

Q.8 A ball is projected from point (0, 0) at t = 0 s. At a height of 15 m, it has a velocity (in m/s) v = 8.0 i + 10 j. i and j are unit vectors along x-axis and y-axis. The maximum height the ball rises is (neglect air resistance and take $g = 10\ m/s^2$):

Ans

✗ 1. 25 m

✓ 2. 20 m

✗ 3. 40 m

✗ 4. 30 m

Question ID : **630680530137**
Option 1 ID : **6306802072462**
Option 2 ID : **6306802072461**
Option 3 ID : **6306802072464**
Option 4 ID : **6306802072463**
Status : **Answered**
Chosen Option : **2**

Q.9 A constant current I is maintained in a coil of pure inductance L. The energy stored in the coil is:

Ans

✗ 1. $L I^2$

✗ 2. $L I$

✗ 3. $\left(\frac{1}{4}\right) L I^2$

✓ 4. $\left(\frac{1}{2}\right) L I^2$

Question ID : **630680530128**
Option 1 ID : **6306802072428**
Option 2 ID : **6306802072427**
Option 3 ID : **6306802072425**
Option 4 ID : **6306802072426**
Status : **Answered**
Chosen Option : **4**

Q.10 An electron in a hydrogen atom (Bohr model) makes a transition from n = 2 state to n = 1 state. The frequency of the emitted photon is (take $R = 1.0 \times 10^7\ m^{-1}$):

Ans

✗ 1. 3.26×10^{14} Hz

✗ 2. 1.24×10^{13} Hz

✗ 3. 2.45×10^{14} Hz

✓ 4. 2.25×10^{15} Hz

Question ID : **630680530143**
Option 1 ID : **6306802072487**
Option 2 ID : **6306802072485**
Option 3 ID : **6306802072486**
Option 4 ID : **6306802072488**
Status : **Answered**
Chosen Option : **3**

Q.11 Consider a prism made of glass ($\mu = 3/2$) of refracting angle 60°. It is completely immersed in water ($\mu = 4/3$). The angle of minimum deviation for the prism is:

Ans

✗ 1. $2\sin^{-1}\left(\frac{9}{16}\right) - \frac{\pi}{6}$

✗ 2. $\sin^{-1}\left(\frac{9}{16}\right) - \frac{\pi}{3}$

✓ 3. $2\sin^{-1}\left(\frac{9}{16}\right) - \frac{\pi}{3}$

✗ 4. $\sin^{-1}\left(\frac{9}{16}\right) - \frac{\pi}{6}$

Question ID : **630680530146**
Option 1 ID : **6306802072500**
Option 2 ID : **6306802072497**
Option 3 ID : **6306802072499**
Option 4 ID : **6306802072498**
Status : **Answered**
Chosen Option : **3**

Q.12 $5^n - 5$ is divisible by which of the following numbers?

Ans

✗ 1. 7

✓ 2. 4

✗ 3. 9

✗ 4. 11

Question ID : **630680530117**
Option 1 ID : **6306802072382**
Option 2 ID : **6306802072381**
Option 3 ID : **6306802072383**
Option 4 ID : **6306802072384**
Status : **Answered**
Chosen Option : **2**

Q.13 Which of the following is the solution of the given inequality $6x + 7 \leq x - 28$, where x is a natural number?

Ans

✗ 1. $x \geq 3$

✗ 2. $x \geq 5$

✗ 3. $x \leq -5$

✓ 4. No solution

Question ID : **630680530109**
Option 1 ID : **6306802072352**
Option 2 ID : **6306802072349**
Option 3 ID : **6306802072350**
Option 4 ID : **6306802072351**
Status : **Answered**
Chosen Option : **4**

Q.14 A ball is thrown upward at a place where the acceleration due to gravity is 9.8 m/s^2. The acceleration of the ball during its motion upward and at its highest point, respectively, are:

Ans

1. ✗ $9.8\ m/s^2$ and 0
2. ✗ $-9.8\ m/s^2$ and $9.8\ m/s^2$
3. ✓ $-9.8\ m/s^2$ and $-9.8\ m/s^2$
4. ✗ $-9.8\ m/s^2$ and 0

Question ID : **630680530135**
Option 1 ID : **6306802072453**
Option 2 ID : **6306802072455**
Option 3 ID : **6306802072456**
Option 4 ID : **6306802072454**
Status : **Answered**
Chosen Option : **1**

Q.15 When sunlight passes through the earth's atmosphere, it gets scattered by atmospheric particles. For a light of wavelength λ, the amount of scattering is proportional to:

Ans

1. ✗ λ^4
2. ✓ $\frac{1}{\lambda^4}$
3. ✗ λ^2
4. ✗ $\frac{1}{\lambda^2}$

Question ID : **630680530144**
Option 1 ID : **6306802072492**
Option 2 ID : **6306802072490**
Option 3 ID : **6306802072491**
Option 4 ID : **6306802072489**
Status : **Answered**
Chosen Option : **4**

Q.16 Evaluate the given expression.

$$\int \frac{\sqrt{81-(\log x)^2}}{x}\,dx$$

Ans

1. $\frac{x}{2}\sqrt{81-(x)^2}+\frac{81}{2}\sin^{-1}\left(\frac{x}{9}\right)+C$
2. $\frac{\log x}{2}\sqrt{81-(\log x)^2}+\frac{81}{2}\sin^{-1}\left(\frac{\log x}{9}\right)+C$
3. $\frac{x}{2}\sqrt{81-(\log x)^2}+\frac{81}{2}\sin^{-1}\left(\frac{x}{9}\right)+C$
4. $\frac{\log x}{2}\sqrt{81-(x)^2}+\frac{9}{2}\sin^{-1}\left(\frac{\log x}{9}\right)+C$

Question ID : **630680530099**
Option 1 ID : **6306802072311**
Option 2 ID : **6306802072309**
Option 3 ID : **6306802072310**
Option 4 ID : **6306802072312**
Status : **Answered**
Chosen Option : **2**

Q.17 What is the number of words formed using the letters of the word COMPUTER, so that all the vowels are always together?

Ans

1. 720
2. 2460
3. 540
4. 4320

Question ID : **630680530116**
Option 1 ID : **6306802072377**
Option 2 ID : **6306802072380**
Option 3 ID : **6306802072378**
Option 4 ID : **6306802072379**
Status : **Answered**
Chosen Option : **1**

Q.18 Which of the following matrices is a symmetric matrix?

Ans

✔ 1. $\begin{bmatrix} 2 & 3 & 4 \\ 3 & -3 & 4 \\ 4 & 4 & 4 \end{bmatrix}$

✘ 2. $\begin{bmatrix} 2 & 3 & 4 \\ 3 & 3 & -4 \\ 4 & 4 & 4 \end{bmatrix}$

✘ 3. $\begin{bmatrix} 2 & -3 & 4 \\ 3 & -3 & 4 \\ 4 & -4 & 4 \end{bmatrix}$

✘ 4. $\begin{bmatrix} 2 & 3 & 4 \\ -2 & -3 & -4 \\ 2 & 3 & 4 \end{bmatrix}$

Question ID : **630680530114**
Option 1 ID : **6306802072370**
Option 2 ID : **6306802072372**
Option 3 ID : **6306802072371**
Option 4 ID : **6306802072369**
Status : **Answered**
Chosen Option : **4**

Q.19 A physical quantity X is given by $X = a^2 b^3 c^{-1/2} d^{1/2}$. If the percentage errors in measurement of a, b, c and d are 1%, 3%, 4% and 2%, respectively, then the percentage error in result of X will be:

Ans

✔ 1. 14%

✘ 2. 12%

✘ 3. 13%

✘ 4. 11%

Question ID : **630680530154**
Option 1 ID : **6306802072532**
Option 2 ID : **6306802072530**
Option 3 ID : **6306802072531**
Option 4 ID : **6306802072529**
Status : **Answered**
Chosen Option : **2**

Q.20 What is the value of $-16 \bmod 5$?

Ans

✔ 1. 4

✘ 2. 2

✘ 3. 11

✘ 4. 1

Question ID : **630680530107**
Option 1 ID : **6306802072341**
Option 2 ID : **6306802072344**
Option 3 ID : **6306802072342**
Option 4 ID : **6306802072343**
Status : **Answered**
Chosen Option : **3**

Q.21 If $|A| = 4$ and $|B| = 5$, then what is the value of $|AB|$?

Ans
✔ 1. 20
✗ 2. 16
✗ 3. 9
✗ 4. 25

Question ID : **630680530113**
Option 1 ID : **6306802072365**
Option 2 ID : **6306802072367**
Option 3 ID : **6306802072366**
Option 4 ID : **6306802072368**
Status : **Answered**
Chosen Option : **1**

Q.22 A diatomic molecule, treated as a rigid rotator has _____ degree of freedom.

Ans
✗ 1. 4
✗ 2. 7
✗ 3. 3
✔ 4. 5

Question ID : **630680530149**
Option 1 ID : **6306802072510**
Option 2 ID : **6306802072512**
Option 3 ID : **6306802072509**
Option 4 ID : **6306802072511**
Status : **Answered**
Chosen Option : **1**

Q.23 The dimensions of 'thermal conductivity' is:

Ans
✗ 1. $[ML\,T^{-2}\,K]$
✔ 2. $[ML\,T^{-3}\,K^{-1}]$
✗ 3. $[ML\,T^{-3}\,K]$
✗ 4. $[ML^2\,T^{-2}\,K^{-1}]$

Question ID : **630680530152**
Option 1 ID : **6306802072523**
Option 2 ID : **6306802072522**
Option 3 ID : **6306802072521**
Option 4 ID : **6306802072524**
Status : **Answered**
Chosen Option : **2**

Q.24 Which of the following is NOT an element of the set numbers belonging to Fibonacci sequence?

Ans

✗ 1. 34

✓ 2. 7

✗ 3. 13

✗ 4. 89

Question ID : **630680530108**
Option 1 ID : **6306802072347**
Option 2 ID : **6306802072345**
Option 3 ID : **6306802072346**
Option 4 ID : **6306802072348**
Status : **Answered**
Chosen Option : **3**

Q.25 An AC voltage is applied to a pure capacitor. The current in the capacitor _____ the voltage by _____.

Ans

✗ 1. lags, π

✗ 2. lags, $\frac{\pi}{2}$

✓ 3. leads, $\frac{\pi}{2}$

✗ 4. leads, π

Question ID : **630680530127**
Option 1 ID : **6306802072421**
Option 2 ID : **6306802072423**
Option 3 ID : **6306802072424**
Option 4 ID : **6306802072422**
Status : **Answered**
Chosen Option : **1**

Q.26 Two coils are arranged close to each other. When the current in one coil changes from 0 A to 10 A in 0.5 s, the flux linked with the other coil changes by 40 Wb, during the same period. The mutual inductance of the coils is:

Ans

✗ 1. 6.0 H

✓ 2. 4.0 H

✗ 3. 2.0 H

✗ 4. 8.0 H

Question ID : **630680530130**
Option 1 ID : **6306802072435**
Option 2 ID : **6306802072434**
Option 3 ID : **6306802072433**
Option 4 ID : **6306802072436**
Status : **Answered**
Chosen Option : **3**

Q.27 Which of the following represents the solution of the given system of linear equations?

$3x + y + 5z = 30$

$2x + 2y + 3z = 40$

$x + y + 2z = 20$

Ans

✔ 1. $x = 5, y = 15, z = 0$

✗ 2. $x = 5, y = 0, z = 15$

✗ 3. $x = 10, y = 5, z = 5$

✗ 4. $x = 0, y = 10, z = 5$

Question ID : **630680530115**
Option 1 ID : **6306802072373**
Option 2 ID : **6306802072376**
Option 3 ID : **6306802072374**
Option 4 ID : **6306802072375**
Status : **Answered**
Chosen Option : **1**

Q.28 Find three consecutive terms in an AP, whose sum and product are 48 and 3840, respectively.

Ans

✗ 1. 12, 14, 16

✗ 2. 16, 20, 24

✔ 3. 12, 16, 20

✗ 4. 14, 16, 18

Question ID : **630680530123**
Option 1 ID : **6306802072405**
Option 2 ID : **6306802072406**
Option 3 ID : **6306802072408**
Option 4 ID : **6306802072407**
Status : **Answered**
Chosen Option : **3**

Q.29 Rahul (mass 60 kg) is standing on a frictionless plane surface. He kicks a box of 2.0 kg lying near his feet, giving it a velocity of (3.0 m/s)i. The velocity of Rahul after the kick is:

Ans

✗ 1. 0

✔ 2. $-(0.1\ m/s)\ i$

✗ 3. $(0.1\ m/s)\ i$

✗ 4. $-(3.0\ m/s)\ i$

Question ID : **630680530140**
Option 1 ID : **6306802072473**
Option 2 ID : **6306802072475**
Option 3 ID : **6306802072474**
Option 4 ID : **6306802072476**
Status : **Answered**
Chosen Option : **2**

Q.30 If a particle moves in a straight line such that the distance travelled in time t is given by the equation $S = 5t^2 + 16t + 9$, what is the initial velocity of the particle (in units/time)?

Ans

✗ 1. 9

✗ 2. 35

✓ 3. 16

✗ 4. 25

Question ID : **630680530095**
Option 1 ID : **6306802072294**
Option 2 ID : **6306802072295**
Option 3 ID : **6306802072293**
Option 4 ID : **6306802072296**
Status : **Answered**
Chosen Option : **4**

Q.31 In a Linear programming problem, what are the inequations $x \geq 0$ and $y \geq 0$ called?

Ans

✗ 1. Corner points

✗ 2. Positive constraints

✓ 3. Non-negative constraints

✗ 4. Optimum values

Question ID : **630680530112**
Option 1 ID : **6306802072364**
Option 2 ID : **6306802072362**
Option 3 ID : **6306802072361**
Option 4 ID : **6306802072363**
Status : **Answered**
Chosen Option : **3**

Q.32 What is the conjugate of the given complex number?

$z = 3i + 7$

Ans

✗ 1. $\bar{z} = -3i - 7$

✗ 2. $\bar{z} = 3 + 7i$

✗ 3. $\bar{z} = 3i - 7$

✓ 4. $\bar{z} = -3i + 7$

Question ID : **630680530101**
Option 1 ID : **6306802072318**
Option 2 ID : **6306802072320**
Option 3 ID : **6306802072317**
Option 4 ID : **6306802072319**
Status : **Answered**
Chosen Option : **1**

Q.33 Which of the following are dimensionless quantities?

(i) Refractive index, (ii) Moment of inertia, (iii) Strain, (iv) Surface tension

Ans

✗ 1. (i) and (ii)

✗ 2. (ii) and (iii)

✗ 3. (ii) and (iv)

✓ 4. (i) and (iii)

Question ID : **630680530153**
Option 1 ID : **6306802072525**
Option 2 ID : **6306802072528**
Option 3 ID : **6306802072527**
Option 4 ID : **6306802072526**
Status : **Answered**
Chosen Option : **2**

Q.34 A point mass has a velocity v = (1.0 m/s) i + (3.0 m/s) j, at a certain instant. At the same instant, it experiences a force F = – (2.0 N) i + (4.0 N) j + (5.0 N) k. i, j and k are unit vectors along x-, y-, and z- axis, respectively. The power delivered by the force, at that instant is:

Ans

✗ 1. 20 W

✓ 2. 10 W

✗ 3. 14 W

✗ 4. 12 W

Question ID : **630680530156**
Option 1 ID : **6306802072540**
Option 2 ID : **6306802072537**
Option 3 ID : **6306802072539**
Option 4 ID : **6306802072538**
Status : **Answered**
Chosen Option : **3**

Q.35 What is the area of the region bounded by the curve $y = \sqrt{32 - x^2}$ and x – axis in the first quadrant?

Ans

✗ 1. $4\sqrt{2}\,\pi$ sq units

✓ 2. 8π sq units

✗ 3. 4π sq units

✗ 4. 32π sq units

Question ID : **630680530096**
Option 1 ID : **6306802072299**
Option 2 ID : **6306802072298**
Option 3 ID : **6306802072297**
Option 4 ID : **6306802072300**
Status : **Answered**
Chosen Option : **1**

Q.36 A particle is moving in simple harmonic motion according to x (t) = 2.0 sin(40 t), where x is in metres and t is in seconds. Its maximum velocity (in m/s) is:

Ans

✗ 1. 160

✗ 2. 80 sin(40t)

✓ 3. 80

✗ 4. 80 cos(40t)

Question ID : **630680530147**
Option 1 ID : **6306802072504**
Option 2 ID : **6306802072501**
Option 3 ID : **6306802072503**
Option 4 ID : **6306802072502**
Status : **Answered**
Chosen Option : **2**

Q.37 The pressure P, of an ideal gas (RMS speed v_{rms}) is reduced to (P/2) in an isothermal process. The root mean square speed of molecules becomes n v_{rms}, where n is:

Ans

✗ 1. $\frac{1}{\sqrt{2}}$

✗ 2. 2

✗ 3. $\sqrt{2}$

✓ 4. 1

Question ID : **630680530150**
Option 1 ID : **6306802072514**
Option 2 ID : **6306802072516**
Option 3 ID : **6306802072513**
Option 4 ID : **6306802072515**
Status : **Answered**
Chosen Option : **3**

Q.38 A block of 20 kg is lying on a rough horizontal surface. A force of 50 N is applied to the block horizontally, but the block does not move at all. The force of friction acting on the block is (given $g = 10\ m/s^2$):

Ans

✗ 1. 0 N

✓ 2. 50 N

✗ 3. 1000 N

✗ 4. 200 N

Question ID : **630680530139**
Option 1 ID : **6306802072469**
Option 2 ID : **6306802072470**
Option 3 ID : **6306802072472**
Option 4 ID : **6306802072471**
Status : **Answered**
Chosen Option : **1**

Q.39 Which of the following functions is symmetric, but neither reflexive nor transitive?

Ans
✗ 1.
R = {(L1, L2) : L1 is parallel to L2, where L is the set of lines in a plane}

✗ 2.
R = {(T1, T2) : T1 is congruent to T2, where T is the set of triangles in a plane}

✗ 3.
R = {(T1, T2) : T1 is similar to T2, where T is the set of triangles in a plane}

✓ 4.
R = {(L1, L2) : L1 is perpendicular to L2, where L is the set of lines in a plane}

Question ID : **630680530119**
Option 1 ID : **6306802072391**
Option 2 ID : **6306802072389**
Option 3 ID : **6306802072390**
Option 4 ID : **6306802072392**
Status : **Answered**
Chosen Option : **3**

Q.40 Which of the following is the solution of the given inequality,

$8x + 2 \geq 2x + 14$, where x is a real number?

Ans
✗ 1. $(-\infty, \infty)$

✗ 2. $(2, \infty)$

✓ 3. $[2, \infty)$

✗ 4. $[-2, 2]$

Question ID : **630680530110**
Option 1 ID : **6306802072356**
Option 2 ID : **6306802072354**
Option 3 ID : **6306802072353**
Option 4 ID : **6306802072355**
Status : **Answered**
Chosen Option : **1**

Q.41 What is the value of $\lim_{x \to 12} \frac{x^3 - 1728}{x - 12}$?

Ans
✗ 1. 3

✗ 2. 0

✗ 3. 144

✓ 4. 432

Question ID : **630680530100**
Option 1 ID : **6306802072314**
Option 2 ID : **6306802072313**
Option 3 ID : **6306802072315**
Option 4 ID : **6306802072316**
Status : **Answered**
Chosen Option : **2**

Q.42 A ball is projected from origin in x y plane, with velocity u making an angle θ_0 with the x-axis. The horizontal range of the ball is:

Ans

✗ 1. $\left(\frac{u^2}{g}\right) \sin\theta_0$

✓ 2. $\left(\frac{u^2}{g}\right) \sin 2\theta_0$

✗ 3. $\left(\frac{u^2}{2g}\right) \sin 2\theta_0$

✗ 4. $\left(\frac{u^2}{2g}\right) \sin\theta_0$

Question ID : **630680530133**
Option 1 ID : **6306802072447**
Option 2 ID : **6306802072448**
Option 3 ID : **6306802072446**
Option 4 ID : **6306802072445**
Status : **Answered**
Chosen Option : **2**

Q.43 What is the centre and radius, respectively, of the circle represented by the equation $x^2 - 10x + y^2 + 8y = 77$?

Ans

✗ 1. (5, 4); 6

✗ 2. (10, 8); 77

✗ 3. (−5, 4); 36

✓ 4. (5, −4); 6

Question ID : **630680530104**
Option 1 ID : **6306802072329**
Option 2 ID : **6306802072330**
Option 3 ID : **6306802072331**
Option 4 ID : **6306802072332**
Status : **Answered**
Chosen Option : **3**

Q.44 If $(3i - 2)^2 + (5i + 6)^2 = a + ib$, what is the value of a + b?

Ans

✗ 1. 102

✓ 2. 54

✗ 3. 144

✗ 4. 48

Question ID : **630680530102**
Option 1 ID : **6306802072322**
Option 2 ID : **6306802072321**
Option 3 ID : **6306802072324**
Option 4 ID : **6306802072323**
Status : **Answered**
Chosen Option : **2**

Q.45 A ball is projected horizontally with a speed of 20 m/s from a point (0 m, 10 m) in x-y plane. The ball strikes the ground at point (x m, 0 m), where x is (take $g = 10\ m/s^2$):

Ans

✗ 1. 60 m

✗ 2. 10m

✗ 3. 20 m

✓ 4. 40 m

Question ID : **630680530134**
Option 1 ID : **6306802072452**
Option 2 ID : **6306802072449**
Option 3 ID : **6306802072450**
Option 4 ID : **6306802072451**
Status : **Answered**
Chosen Option : **1**

Q.46 If the function

$$f(x) = \begin{cases} \frac{\sin x}{x} + \sec x, x \neq 0 \\ a \quad x = 0 \end{cases}$$ is continuous at x = 0, what is the value of a?

Ans

✓ 1. 2

✗ 2. 1

✗ 3. $\frac{1}{2}$

✗ 4. 0

Question ID : **630680530098**
Option 1 ID : **6306802072308**
Option 2 ID : **6306802072305**
Option 3 ID : **6306802072307**
Option 4 ID : **6306802072306**
Status : **Answered**
Chosen Option : **2**

Q.47 A company manufactures educational toys and its cost equation for a week is C = 300 + 1.5x and its revenue equation is R = 2x, where x is the number of toys sold in a week. How many toys must be sold per week so that the company realises a profit?

Ans

✓ 1. More than 600

✗ 2. More than 825

✗ 3. More than 750

✗ 4. More than 900

Question ID : **630680530111**
Option 1 ID : **6306802072360**
Option 2 ID : **6306802072358**
Option 3 ID : **6306802072359**
Option 4 ID : **6306802072357**
Status : **Answered**
Chosen Option : **4**

Q.48 Let $\lambda_1, \lambda_2, \lambda_3$ and λ_4 be wavelengths of Microwaves, Gamma rays, Ultraviolet rays and Infrared rays. Then:

Ans

✗ 1. $\lambda_1 > \lambda_2 > \lambda_3 > \lambda_4$

✓ 2. $\lambda_1 > \lambda_4 > \lambda_3 > \lambda_2$

✗ 3. $\lambda_3 > \lambda_2 > \lambda_1 > \lambda_4$

✗ 4. $\lambda_3 > \lambda_2 > \lambda_4 > \lambda_1$

Question ID : **630680530132**
Option 1 ID : **6306802072441**
Option 2 ID : **6306802072444**
Option 3 ID : **6306802072442**
Option 4 ID : **6306802072443**
Status : **Answered**
Chosen Option : **2**

Q.49 What are the coordinates of the image of the point (2, 3) in the line (where line acts like a mirror) x + 3y = 5?

Ans

✗ 1. $\left(\frac{4}{5}, \frac{3}{5}\right)$

✗ 2. $\left(\frac{1}{2}, \frac{1}{3}\right)$

✓ 3. $\left(\frac{4}{5}, \frac{-3}{5}\right)$

✗ 4. $(-2, -3)$

Question ID : **630680530106**
Option 1 ID : **6306802072339**
Option 2 ID : **6306802072340**
Option 3 ID : **6306802072338**
Option 4 ID : **6306802072337**
Status : **Answered**
Chosen Option : **2**

Q.50 At which of the points is the function f(x) = [x], where [x] is the greatest integer function continuous?

Ans

✓ 1. 3.6

✗ 2. 0

✗ 3. 3

✗ 4. −4

Question ID : **630680530097**
Option 1 ID : **6306802072301**
Option 2 ID : **6306802072302**
Option 3 ID : **6306802072303**
Option 4 ID : **6306802072304**
Status : **Answered**
Chosen Option : **3**

Q.51 A = {24, 36, 48} and B = {12, 18, 24}, f : A → B. Which of the following functions is neither one-one nor onto where f : N → N?

Ans

✗ 1. f = {(24, 12), (36, 18), (48, 24)}

✗ 2. g = {(24, 18), (36, 24), (48, 12)}

✗ 3. s = {(24, 24), (36, 12), (48, 18)}

✓ 4. h = {(24, 12), (36, 18), (48, 12)}

Question ID : **630680530120**
Option 1 ID : **6306802072393**
Option 2 ID : **6306802072394**
Option 3 ID : **6306802072396**
Option 4 ID : **6306802072395**
Status : **Answered**
Chosen Option : **1**

Q.52 The length of a simple pendulum is increased by 10%. Its time period increases by about:

Ans

✗ 1. 2.5%

✓ 2. 5%

✗ 3. 10%

✗ 4. 7.5%

Question ID : **630680530148**
Option 1 ID : **6306802072505**
Option 2 ID : **6306802072506**
Option 3 ID : **6306802072508**
Option 4 ID : **6306802072507**
Status : **Answered**
Chosen Option : **2**

Q.53 A circuit consisting of an inductor (L) and a capacitor (C) oscillates at a frequency of 1.0 kHz. If L= 50 mH, then C is close to (*consider* $\pi^2 \sim 10$):

Ans

✓ 1. 0.5 μF

✗ 2. 25 μF

✗ 3. 50 m F

✗ 4. 1.0 μF

Question ID : **630680530129**
Option 1 ID : **6306802072429**
Option 2 ID : **6306802072432**
Option 3 ID : **6306802072431**
Option 4 ID : **6306802072430**
Status : **Answered**
Chosen Option : **2**

Q.54 What is the sum to infinity of the given geometric progression?

2, 0.2, 0.02, 0.002, ……

Ans

✔ 1. 2.22222…

✗ 2. 3.00

✗ 3. $\frac{200}{99}$

✗ 4. $\frac{99}{200}$

Question ID : **630680530122**
Option 1 ID : **6306802072404**
Option 2 ID : **6306802072403**
Option 3 ID : **6306802072402**
Option 4 ID : **6306802072401**
Status : **Answered**
Chosen Option : **2**

Q.55 A telescope has objective of diameter 2.44 m. For light of wavelength 0.5μm, its resolving power is:

Ans

✔ 1. 4×10^6

✗ 2. 2×10^4

✗ 3. 4×10^4

✗ 4. 2×10^5

Question ID : **630680530145**
Option 1 ID : **6306802072496**
Option 2 ID : **6306802072493**
Option 3 ID : **6306802072495**
Option 4 ID : **6306802072494**
Status : **Answered**
Chosen Option : **4**

Q.56 Which of the following is NOT an SI unit?

Ans

✗ 1. Kilogram

✔ 2. Litre

✗ 3. Kelvin

✗ 4. Ampere

Question ID : **630680530151**
Option 1 ID : **6306802072517**
Option 2 ID : **6306802072519**
Option 3 ID : **6306802072520**
Option 4 ID : **6306802072518**
Status : **Answered**
Chosen Option : **1**

Q.57 The position(x) –time(t) graph of a ball is a straight line inclined at an angle of 30° to the x-axis. The ball is moving with:

Ans

✗ 1. increasing acceleration

✓ 2. constant velocity

✗ 3. decreasing acceleration

✗ 4. increasing velocity

Question ID : **630680530136**
Option 1 ID : **6306802072457**
Option 2 ID : **6306802072459**
Option 3 ID : **6306802072458**
Option 4 ID : **6306802072460**
Status : **Answered**
Chosen Option : **2**

Q.58 If $f(x) = \sin x$, $g(x) = 3x$ and $h(x) = x + 4$, then what is $ho(gof)$?

Ans

✗ 1. $\sin x + 4x + 4$

✓ 2. $3\sin x + 4$

✗ 3. $\sin(3x + 4)$

✗ 4. $\sin 3x + 4$

Question ID : **630680530121**
Option 1 ID : **6306802072400**
Option 2 ID : **6306802072399**
Option 3 ID : **6306802072398**
Option 4 ID : **6306802072397**
Status : **Answered**
Chosen Option : **3**

Q.59 A speaks the truth in 70% cases and B speaks the truth in 84% cases. What is the probability that they contradict each other on a statement?

Ans

✗ 1. 0.140

✓ 2. 0.364

✗ 3. 0.154

✗ 4. 0.636

Question ID : **630680530118**
Option 1 ID : **6306802072385**
Option 2 ID : **6306802072387**
Option 3 ID : **6306802072386**
Option 4 ID : **6306802072388**
Status : **Answered**
Chosen Option : **1**

Q.60 Mohan (mass 60 kg) runs up a flight of stairs having a rise of 5 m in 6 s. The average power supplied by him during run up is (take g = 10 m/s^2):

Ans

✔ 1. 0.5 kW

✗ 2. 3.0 kW

✗ 3. 0.72 kW

✗ 4. 0.05 kW

Question ID : **630680530155**
Option 1 ID : **6306802072534**
Option 2 ID : **6306802072536**
Option 3 ID : **6306802072535**
Option 4 ID : **6306802072533**
Status : **Answered**
Chosen Option : **2**