



# भारतीय विमानपत्तन प्राधिकरण

(अनुसूची – 'ए' मिनी रत्न - श्रेणी 1-सार्वजनिक क्षेत्र का उद्यम)

## **AIRPORTS AUTHORITY OF INDIA**

(SCHEDULE – 'A' MINI RATNA- CATEGORY- 1 PUBLIC SECTOR ENTERPRISE) राजीव गांधी भवन, सफदरजंग हवाईअड्डा, नई दिल्ली- 110003 RAJIV GANDHI BHAWAN, SAFDARJUNG AIRPORT, NEW DELHI-110003

#### RECRUITMENT FOR VARIOUS POSTS IN OFFICIAL LANGUAGE AND AIR TRAFFIC CONTROL

### **ADVERTISEMENT No. 08/2022**

Participant ID	
Participant Name	
Test Center Name	Shankara Institute of Technology
Test Date	21/02/2023
Test Time	12:30 PM - 2:30 PM
Subject	Junior Executive (Air Traffic Control)

Section: General Knowledge

Q.1 Which of the following is NOT one of the three major types of indigenous wild silks produced in Assam?

Ans

1. Kausheya Pat

X 2. Golden Muga Silk

X 3. White Pat

X 4. Warm Eri Silk

Question ID: 630680164377

Status: Answered

Chosen Option: 2

Q.2 In which of the following states did Micro-Finance Institutions Network (MFIN) launch a series of free Medical Health Camps in 18 flood affected districts in September 2022?

Anc

X 1. Meghalaya

🥓 2. Assam

X 3. Bihar

X 4. Jharkhand

Question ID: 630680164376

Status: Answered

#### Q.3 Match the columns.

Rive	ers	Their origin
I.	Indus	a) Amarkantak (Madhya Pradesh)
II.	Godavari	b) Mansarovar (Tibet)
III.	Cauvery	c) Nasik (Maharashtra)
IV.	Narmada	d) Coorg (Karnataka)

Ans

- 1. I-b, II-c, III-d, IV-a
- X 2. I-a, II-c, III-b, IV-d
- X 3. I-d, II-c, III-b, IV-a
- X 4. I-b, II-c, III-a, IV-d

Question ID: 630680164378

Status: Answered

Chosen Option: 1

### Q.4 Who is the awardee of Major Dhyan Chand Khel Ratna Award 2022?

Ans

- X 1. Eldhose Paul
- X 2. R Praggnanandhaa
- X 3. Avinash Mukund Sable
- 4. Sharath Kamal Achanta

Question ID: 630680164382

Status: Answered

Chosen Option: 1

## Q.5 In which year did the University Grants Commission Act come into force?

- **X** 1. 1954
  - **X** 2. 1950
  - **X** 3. 1952
  - **4**. 1956

Question ID: 630680164374

Status: Answered

Chosen Option: 3

## Q.6 Article 148 of the Constitution of India guides towards the appointment of \_\_\_\_\_.

- Ans X 1. Finance Commissioner
  - 2. Comptroller and Auditor-General of India
  - X 3. Election Commissioner
  - X 4. Attorney-General for India

Question ID: 630680164381

Status: Answered

# Q.7 The reformer Henry Vivian Derozio was associated with \_\_\_ X 1. Ahmadiya Movement Ans X 2. Suddhi Movement 3. Young Bengal Movement X 4. Akali Movement Question ID: 630680164373 Status: Answered Chosen Option: 2 Q.8 Which of the following leucoplasts store oils and fats? X 1. Aleuroplasts Ans X 2. Nucloeplasts 3. Elaioplasts X 4. Amyloplasts Question ID: 630680164379 Status: Answered Chosen Option: 4 Q.9 Which of the following Harappan sites was excavated in the 1960s under the guidance of BK Thapar? X 1. Lothal Ans X 2. Harappa X 3. Mohenjodaro 4. Kalibangan Question ID: 630680164375 Status: Answered Chosen Option: 4 Q.10 Identify the cnidarian that is correctly matched with its common name. ★ 1. Adamsia – Sea-pen ✓ 2. Physalia – Portuguese man-of-war 🗙 3. Pennatula – Sea-fan 🗙 4. Gorgonia – Sea anemone Question ID: 630680164380 Status: Answered Chosen Option: 2

Section: General Intelligence

Each of the five persons among M, N, O, P and Q like different drinks among coffee, tea, hot chocolate, iced tea and energy drink, not necessarily in the same order. They all have different professions - Teacher, Librarian, Technician, Accountant and Acrobat. N does not like tea. M likes coffee and is a librarian. N and P like neither energy drink nor iced tea. O likes energy drink but he is neither a teacher nor an accountant. Q is a technician. The one who likes tea is a teacher. Which of the following is correct? X 1. O likes energy drink and is a technician. 2. Q is an acrobat and likes energy drink. 3. P is an accountant and likes iced tea. 4. P is a teacher and likes tea. Question ID: 630680164387 Status: Answered Chosen Option: 4 Q.2 If in a certain coding language, 'flowers go black' is written as 'la vo mu', 'black panther died' is written as 'zi mu be' and 'panther go red' is written as 'be la ho', how will 'panther' be written in that language? X 1. ho Ans X 2. zi √ 3. be X 4. la Ouestion ID: 630680164389 Status: Answered Chosen Option: 3 Q.3 Seven teachers P, Q, R, S, T, U and V are sitting in a straight row, facing north. Only Q sits between V and U. Only R sits to the right of T. P is to the immediate left of T. Only P sits between T and S. V does not sit at any of the extreme ends of the row. Who sits to the immediate left of Q? X 1. T X 2. V X 4. P Question ID: 630680164384 Status: Answered Chosen Option: 3 A certain number of people are sitting in a row, facing south. Naresh sits fourth to the right of Sita. Only four people sit between Naresh and Kumar. Raju sits to the immediate right of Kumar. Only two people sit between Kumar and Anuj. Amit sits third to the right of Anuj. If no other person is sitting in the row, what is the total number of people seated? X 1. 14 Ans **2.16 X** 3. 15 **X** 4. 17 Question ID: 630680164386 Status: Answered Chosen Option: 2

Q.5 Given below are pairs of events (i) and (ii). You have to read them and decide their nature of relationship. You have to assume that the information given in both (i) and (ii) is true and not assume anything beyond the given information in deciding the answer.
Event (i) Many people visited the Taj Mahal during the weekend.
Event (ii) Few foreigners visited the Taj Mahal during the weekdays.

Ans X 1. Event (ii) is the effect and event (i) is its immediate and principal cause.

2. Both the events are effects of some independent causes.

X 3. Both the events are effects of some common cause.

💢 4. Event (i) is the effect and event (ii) is its immediate and principal cause.

Question ID : 630680164396 Status : Answered

Chosen Option : 2

Q.6 Each of M, N, O, P, Q, R and S has birthdays on a different day of a week starting from Monday and ending on Sunday of the same week. Only N has birthday before Q who has birthday on Tuesday. R has birthday on Thursday. P has birthday immediately after S, but not on Sunday. M has birthday on one of the days before O. Who has birthday on Sunday?

Ans 💢 1. S

X 2. Q

**3**. 0

X 4. M

Question ID: 630680164385 Status: Answered

Chosen Option: 3

Q.7 Given below are pairs of events (i) and (ii). You have to read them and decide their nature of relationship. You have to assume that the information given in both (i) and (ii) is true and not assume anything beyond the given information in deciding the answer.
Event (i) The prices of imported goods dropped significantly this year.
Event (ii) The government reduced the tax on importing goods.

Ans X 1. Event (ii) is the effect and event (i) is its immediate and principal cause.

2. Event (i) is the effect and event (ii) is its immediate and principal cause.

3. Both the events are effects of some independent causes.

X 4. Both the events are effects of some common cause.

Question ID: 630680164397 Status: Answered

Chosen Option: 1

Q.8 Mr. Pandey and Mr. Gupta stepped out of the same office and walked towards West. Mr. Pandey walked 300 m and took a right turn. He walked 200 m and took a left turn. He walked 90 m and reached the bank. Meanwhile, Mr. Gupta walked 650 m to reach the bus stop. In which direction is the bus stop from the bank?

Ans X 1. North-West

X 2. South-East

3. South-West

X 4. North

Question ID: 630680164390

Status : Answered

Two men stepped out of an apartment but walked in different directions to reach different destinations. The first man walked 92 m towards west and took a left turn. He then walked 100 m and took a left turn. He then walked 240 m and took a right turn. Finally, he walked for 100 m to reach a point D. The second man walked 80 m towards east and took a right turn. He then walked 110 m to reach a point B. In which direction is point B from point D? Ans 1. South-East 2. North-West X 3. North-East X 4. South-West Question ID: 630680164391 Status: Answered Chosen Option: 2 Q.10 Study the given information carefully and answer the question that follows. A group of 8 classmates, 4 boys H, I, J and K and 4 girls D, E, F and G decided to sit at a round table to have coffee, during the lunch break. They are sitting in such a way that: 1. all of them are facing each other 2. no two girls or two boys are sitting side by side 3. J is between D and G and is facing I 4. E, who is sitting between K and I, is facing D 5. H is to the immediate right of F. Who is sitting in front of K? 🕢 1. H Ans **X** 3. F **X** 4.1 Question ID: 630680164383 Status: Answered Chosen Option: 1 Q.11 F, K, W, C, U, B and D are seven family members attending an economics fair. D is the brother of B. C is wife of W. F is K's husband. B is U's wife. K is the mother of U and daughter of W. How is D related to U? X 1. Brother Ans X 2. Father X 3. Husband 4. Wife's brother Question ID: 630680164392 Status: Answered Chosen Option: 4

Q.12 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:

Few sheep are chimpanzees.

No chimpanzee is a gorilla.

All gorillas are bears.

**Conclusions:** 

- (I) Some bears are not chimpanzees.
- (II) All chimpanzees are sheep.
- (III) All bears are gorillas.

Δns

- X 1. Only conclusion II follows
  - X 2. Either conclusion I or conclusion III follow
- X 3. None of the conclusions follow
- 4. Only conclusion I follows

Question ID: 630680164388

Status: Answered

Chosen Option: 4

- Q.13 Select an option that is true regarding the following two statements labelled Assertion (A) and Reason (R).
  - A. Sun is a star.
  - R. Stars are space objects that produces their own energy through fusion reaction of gases.

Ans

- 1. Both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.
- X 2. 'A' is true but 'R' is false.
- X 3. Both 'A' and 'R' are false.
- X 4. Both 'A' and 'R' are true but 'R' is not the correct explanation of 'A'

Question ID: 630680164395 Status: Answered

Chosen Option : 1

Q.14 A question is given, two statements labelled I and II. Identify which of the statements is/are sufficient/necessary to answer the question.

Question:

On what day of the week does Punit's birthday fall?

Statements:

- I. Arjun correctly remembers that Punit's birthday comes before Thursday but after Monday.
- II. Bhushan correctly remembers that Punit's birthday comes after Tuesday but before Saturday.
- Ans 1. The data in statement I alone is sufficient to answer the question, while the data in statement II alone is not sufficient to answer the question.
  - X 2. The data in statement II alone is sufficient to answer the question, while the data in statement I alone is not sufficient to answer the question.
  - 3. The data given in both statements I and II together are necessary to answer the question.
  - X 4. The data either in statement I alone or statement II alone are sufficient to answer the question.

Question ID: 630680164394

Status: Answered

Q.15 If

'P & Q' means 'P is the brother of Q's mother',

- 'P Ø Q' means 'P is the father of Q',
- 'P \* Q' means 'P is the mother of Q', 'P = Q' means 'P is the wife of Q',
- 'P % Q' means 'P is the husband of Q', then how is M related to S in the following expression?

S = Q Ø O % N \* M

Ans

- X 1. Brother's child
- 🗶 2. Daughter's husband
- 3. Son's child
- X 4. Brother

Question ID: 630680164393

Status: Answered

Chosen Option: 3

Section: General Aptitude

Q.1

The value of  $\frac{5\frac{1}{4} \div 2\frac{1}{3} of \frac{3}{4} - \frac{3}{4} \times 1\frac{1}{2} \div 1\frac{1}{8} + \frac{2}{3}}{0.\overline{29} \div 0.3\overline{2} of (30 \div 11)}$  is:

Ans

- X 4. 9

Ouestion ID: 630680164398

Status: Answered

Chosen Option: 1

Pipes A and B can fill a tank in 12 hours and 15 hours, respectively. Pipe C is an emptying pipe. Pipes A and B are Q.2 opened together for 5 hours and then B is closed and C is opened. A and C together filled the remaining part of the tank

in 10 hours. Pipe C alone can empty  $\frac{7}{15}$  th part of the tank in:

Ans

- √ 1. 8 hours
- × 2. 7 hours
- $\times$  3.  $7\frac{1}{2}$  hours
- $\times$  4.  $8\frac{1}{2}$  hours

Question ID: 630680164411 Status: Answered

	In finding HCF of two positive integers by division method, the las respective quotients from the beginning are 30, 1 and 3. What is t integers?	
Ans	X 1. 3566	
	<b>★</b> 2. 3554	
	<b>X</b> 3. 3564	
	<b>✓</b> 4. 3556	
		Question ID: 630680164400
		Status : Answered
		Chosen Option : 2
Q.4	A sum of ₹7,560 is divided between A, B and C such that the ratio combined share of B and C is 5:9 and the ratio of the share of C and B is 3:7. What is the share of B?	
Ins	<b>√</b> 1. ₹2,592	
	<b>X</b> 2. ₹2,482	
	🗙 3. ₹2,590	
	<b>X</b> 4. ₹2,480	
		Question ID : 630680164405
		Status : Answered
	A and B enter into a partnership with capitals in the ratio $\frac{4}{3}$ : $\frac{5}{6}$ . After 6-months, A increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B
	A and B enter into a partnership with capitals in the ratio $\frac{4}{3}$ : $\frac{5}{6}$ . After 6-months, A increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at $\checkmark$ 1. 30 $\checkmark$ 2. 33.6 $\checkmark$ 3. 32 $\checkmark$ 4. 32.5	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B
	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B
	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32	Status: Answered Chosen Option: 1  A reduces his capital by 25% and B the end of a year?
	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32	Status: Answered Chosen Option: 1  A reduces his capital by 25% and B the end of a year?  Question ID: 630680164406
Q.6	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32  4. 32.5  A car travelling at a speed of 70 km/h overtakes a bus travelling in leaves it 170 m behind in 18 seconds. What is the speed (in km/h)  1. 40  2. 45  3. 36	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B the end of a year?  Question ID : 630680164406 Status : Answered Chosen Option : 2  In the same direction and
Q.6	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32  4. 32.5  A car travelling at a speed of 70 km/h overtakes a bus travelling in leaves it 170 m behind in 18 seconds. What is the speed (in km/h)  1. 40  2. 45	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B the end of a year?  Question ID : 630680164406 Status : Answered Chosen Option : 2  In the same direction and
Q.6	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32  4. 32.5  A car travelling at a speed of 70 km/h overtakes a bus travelling in leaves it 170 m behind in 18 seconds. What is the speed (in km/h)  1. 40  2. 45  3. 36	Status : Answered Chosen Option : 1  A reduces his capital by 25% and B the end of a year?  Question ID : 630680164406 Status : Answered Chosen Option : 2  In the same direction and
Q.5 Ans	increases his capital by 50%. What is the share of B in the profit of ₹63.6 lakhs, at  1. 30  2. 33.6  3. 32  4. 32.5  A car travelling at a speed of 70 km/h overtakes a bus travelling in leaves it 170 m behind in 18 seconds. What is the speed (in km/h)  1. 40  2. 45  3. 36	Chosen Option: 1  A reduces his capital by 25% and B the end of a year?  Question ID: 630680164406 Status: Answered Chosen Option: 2  In the same direction and of the bus?

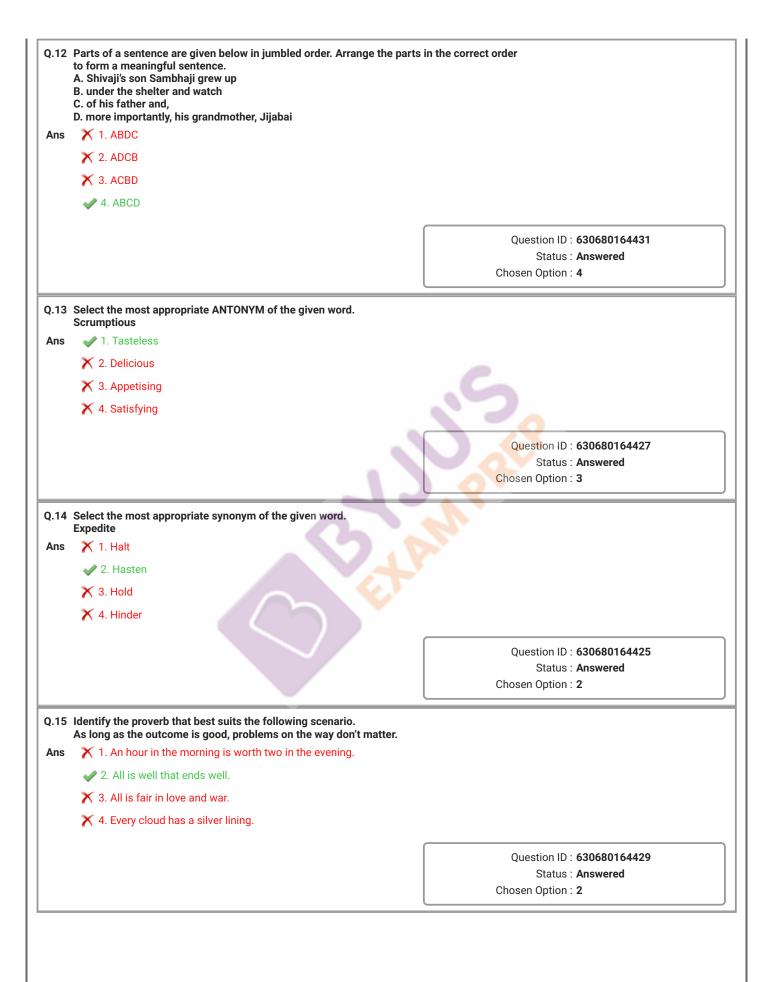
The cost price of item A is ₹500 more than that of item B. When A is sold at a loss of 10% and B is sold at a profit of 25%, then there is a profit of 4% in the entire transaction. What is the selling price of item A? **X** 1. ₹1,260 Ans 2. ₹1,350 **X** 3. ₹1,440 **X** 4. ₹1,620 Question ID: 630680164403 Status: Answered Chosen Option: 2 Q.8 The marked price of an article is ₹450. It is sold for ₹348.48, after giving two successive discounts each of x% on the marked price. If a single discount of 2x% is given on the same marked price, then what will be its selling price? **X** 1. ₹306 Ans **X** 2. ₹315 3. ₹342 X 4. ₹360 Question ID: 630680164404 Status: Answered Chosen Option: 1 Q.9 The ratio of alcohol and water in solution A is 3:5 and it is 7:3 in solution B. Six litres of A and 5 litres of B are mixed in a vessel and one litre water is also added to this mixture. What is the ratio of alcohol and water in the resulting mixture? Ans 1. 23:25 X 2. 23:29 X 3. 21:22 **X** 4. 22 : 23 Question ID: 630680164401 Status: Answered Chosen Option: 1 Q.10 The simple interest on a certain sum for  $12\frac{1}{2}$  years at 15 % p.a. exceeds the amount of the same sum at simple interest for  $6\frac{1}{2}$  years at 12 % p.a. by ₹1197. The sum (in ₹) is: **X** 1. 12,500 **X** 2. 13,000 **X** 3. 12,800 4. 12,600 Question ID: 630680164407 Status: Answered Chosen Option: 3

).11	By selling an article for ₹219.60, a shopkeeper loses 8.5%. If he profit per cent is:	e sells it for ₹205.20, then his
Ans	<b>X</b> 1. 10%	
	<b>X</b> 2.9%	
	<b>✓</b> 3. 10.5%	
	<b>★</b> 4. 12.5%	
		Question ID : <b>630680164402</b> Status : <b>Answered</b>
		Chosen Option: 3
	If a 8-digit number 43x259y2 is divisible by 88, then the largest	t possible value of (5x+2y) is:
Ans	<b>★</b> 1.64	
	<b>√</b> 2. 63	
	<b>★</b> 3. 52	
	<b>★</b> 4. 56	
		Question ID : <b>630680164399</b>
		Status : Answered
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (1 km upstream and 54 km downstream?	Status : Answered Chosen Option : 2  time taken by it to cover three times
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (t	Status : Answered Chosen Option : 2  time taken by it to cover three times
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (tkm upstream and 54 km downstream?  1.3  2.3.5	Status : Answered Chosen Option : 2  time taken by it to cover three times
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (tkm upstream and 54 km downstream?  1.3  2.3.5  3.4.2	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (tkm upstream and 54 km downstream?  1.3  2.3.5  3.4.2	Status : Answered Chosen Option : 2  time taken by it to cover three times
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (tkm upstream and 54 km downstream?  1.3  2.3.5  3.4.2	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (tkm upstream and 54 km downstream?  1.3  2.3.5  3.4.2	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the km upstream and 54 km downstream?  X 1. 3  ✓ 2. 3.5  X 3. 4.2  X 4. 4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest compositions.	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the same distance downstream?  X 1. 3  2. 3.5  3. 4.2  X 4. 4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest comportant amount is to be paid back in two equal annual instalments, there	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the same distance downstream?  1.3  2.3.5  3.4.2  4.4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest composite amount is to be paid back in two equal annual instalments, there  1. ₹4,608	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the km upstream and 54 km downstream?  X 1. 3  ✓ 2. 3.5  X 3. 4.2  X 4. 4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest comportant is to be paid back in two equal annual instalments, therefore 1. ₹4,608  X 2. ₹4,590	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3
Ans	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the km upstream and 54 km downstream?  X 1. 3  ✓ 2. 3.5  X 3. 4.2  X 4. 4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest comportant is to be paid back in two equal annual instalments, ther  ✓ 1. ₹4,608  X 2. ₹4,590  X 3. ₹4,518	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3  unded annually. If the n the interest paid by him is:
	the same distance downstream. The speed of the stream is 7.5 km/h. How many (the km upstream and 54 km downstream?  X 1. 3  ✓ 2. 3.5  X 3. 4.2  X 4. 4  Rashid borrowed a sum of ₹30,240 at 10% p.a., interest comportant is to be paid back in two equal annual instalments, ther  ✓ 1. ₹4,608  X 2. ₹4,590  X 3. ₹4,518	Status: Answered Chosen Option: 2  time taken by it to cover three times total) hours will the boat take to go 42  Question ID: 630680164410 Status: Answered Chosen Option: 3

ns	🗶 1. 448π		
113			
	🗶 2. 280π		
	<b>√</b> 3. 392π		
	🗙 4. 336π		
			Question ID : <b>630680164412</b>
			Status : <b>Answered</b> Chosen Option : <b>3</b>
			Chosen Option . 3
ectic	n : <b>General English</b>		
Q.1	Select the most appropria	te option to fill in the blank.	ıth.
lns	X 1. revealed		
	X 2. reserved		
	✓ 3. repaid		
	X 4. requested		
			Ougation ID + 62060016 4420
			Question ID : 630680164432 Status : Answered
			Chosen Option: 3
			Chosen Option : 3
Q.2		ite option to fill in the blank. nuts, but I didn't see anyone1	Chosen Option: 3
Q.2 Ans			
	I wanted to buy some pea		
	I wanted to buy some pea  1. sold  2. selling		
	I wanted to buy some pea  X 1. sold  ✓ 2. selling  X 3. sells		
	I wanted to buy some pea  1. sold  2. selling		
	I wanted to buy some pea  X 1. sold  ✓ 2. selling  X 3. sells		them.
	I wanted to buy some pea  X 1. sold  ✓ 2. selling  X 3. sells		
	I wanted to buy some pea  X 1. sold  ✓ 2. selling  X 3. sells		Question ID : 630680164415 Status : Answered
	I wanted to buy some pea  X 1. sold  ✓ 2. selling  X 3. sells		Question ID : 630680164415
Ans	I wanted to buy some pea  1. sold 2. selling 3. sells 4. to sell  Select the most appropria		Question ID : 630680164415 Status : Answered Chosen Option : 2
Ans	I wanted to buy some pea  1. sold 2. selling 3. sells 4. to sell  Select the most appropria	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2
Q.3	I wanted to buy some pear  1. sold 2. selling 3. sells 4. to sell  Select the most appropria When she was hungry, she	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a  3. a, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a  3. a, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2  ss of water.
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a  3. a, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID: 630680164415 Status: Answered Chosen Option: 2  ss of water.  Question ID: 630680164420
Q.3	I wanted to buy some pear  1. sold  2. selling  3. sells  4. to sell  Select the most appropria When she was hungry, she  1. the, the  2. an, a  3. a, a	nuts, but I didn't see anyone1 te option to fill in the blanks.	Question ID : 630680164415 Status : Answered Chosen Option : 2  ss of water.

Q.4	Select the most appropriate option to fill in the blank.  We found her playing with little dog in the park.	
Ans	★ 1. No word required	
	<b>✓</b> 2. a	
	<b>★</b> 3. the	
	<b>X</b> 4. an	
		Question ID : <b>630680164419</b> Status : <b>Answered</b>
		Chosen Option : 2
Q.5	Select the most appropriate option to fill in the blanks.  I happily to the demand of our workmen for extra bonus. After all, had all expectations.	this year our sales
Ans	X 1. exceeded, exceeded	
	X 2. exceeded, acceded	
	X 4. acceded, acceded	
		Ouestion ID : <b>630680164426</b>
		Status : Answered
		Chosen Option: 3
0.6	Out and the country of the country o	Display bloods
Q.6	Select the most appropriate option to collocate with the word 'look' to fi Let's take a look through this file.	ii in the plank.
Ans	X 1. swift	
	X 2. fast	B.
	X 3. rapid	
	✓ 4. quick	
		Question ID : 630680164423
		Status : Answered
		Chosen Option : 4
Q.7	Select the most appropriate option to fill in the blanks.  He ordered his soldiers to search whole forest for lost puppy or	f the boy.
Ans	✓ 1. the, the	
	X 2. the, a	
	X 3. a, a	
	X 4. a, the	
		Out the ID (COCCOCCACA)
		Question ID : 630680164422 Status : Answered
		Chosen Option : 1

Q.8	Select the most appropriate option to fill in the blank. Tom: "What are you going to do with this laptop?"	
Ans	Peter: "I it."  1. will sell	
	× 2. was selling	
	X 3. sell	
	× 4. sold	
	7 4. 30iu	
		Question ID : 630680164418
		Status : <b>Answered</b> Chosen Option : <b>1</b>
		Chosen Option . I
Q.9	Select the most appropriate option to fill in the blank. At the association's meeting, people voted by raising hands.	
Ans	✓ 1. their	
	X 2. them	
	X 3. theirs	
	X 4. our  ✓ 4. our	
		Question ID : 630680164414
		Status : Answered
		C <mark>hosen O</mark> ption : <b>1</b>
Q.10	Select the most appropriate option to fill in the blank.  Last night, a thick fog caused a massive accident the Expressway	
Ans	<b>✓</b> 1. on	
	<b>X</b> 2. at	
	★ 3. above	
	X 4. over	
		Question ID : <b>630680164413</b> Status : <b>Answered</b>
		Chosen Option : 1
Q.11	Select the most appropriate option to fill in the blank.  Last year, I a house in Shimla.	
Ans	✓ 1. bought	
	<b>X</b> 2. buy	
	★ 3. was buying	
	★ 4. have bought	
		Question ID : 630680164417
		Status : <b>Answered</b> Chosen Option : <b>1</b>
		5.1555.1 Sp.151 1



Q.16	Select the most appropriate meaning of the given idiom. Bag of bones	
Ans	🗙 1. An unreliable person	
	★ 2. An unsolved issue	
	3. A very thin person	
	🗙 4. A bag full of trash	
		Question ID : <b>630680164430</b> Status : <b>Answered</b>
		Chosen Option: 3
Q.17	Select the most appropriate option to collocate with the word 'tired' to fi Sometimes she tired of looking after small children.	II in the blank.
Ans	★ 1. goes	
	★ 2. begins	
	X 3. makes	
	✓ 4. gets	
		Question ID: 630680164424
		Status : Answered
		Ch <mark>osen O</mark> ption : <b>4</b>
Q.18	Select the most appropriate option to fill in the blank.  Much of credit for making this school great goes to its Principal.	
Ans	X 1. No word required	
	<b>X</b> 2. an	
	<b>X</b> 3. a	
		Question ID : 630680164421
		Status : <b>Answered</b> Chosen Option : <b>4</b>
		Silvani Spiloni I
Q.19	Select the most appropriate option to fill in the blank and complete the correctly.  A journey of thousand miles begins	given proverb
Ans	1. after finishing school	
	X 2. gradually	
	X 3. from home	
	✓ 4. with a single step	
	•	
		Question ID : <b>630680164428</b>
		Status : Answered
		Chosen Option : 4

Q.20 Select the most appropriate option to fill in the blank. Look, the children \_\_\_\_\_ such fun on this swing!

Ans

X 1. have

2. are having

X 3. had

X 4. have had

Question ID: 630680164416 Status: Answered

Chosen Option: 2

Section: Domain Knowledge

Let 
$$A = \begin{pmatrix} \alpha & 1 \\ 0 & -1 \end{pmatrix}$$
 and  $B = \begin{pmatrix} 4 & 1 \\ 0 & 1 \end{pmatrix}$ , such that  $A^2 = B$ , then the value of  $\alpha$  is:

Ans X 1. -2

X 2. 1

√ 3. 2

X 4. -1

Question ID: 630680164472

Status: Answered

Chosen Option: 3

#### Q.2 For a 100 ohm resistor connected to a 220 V, 50 Hz AC supply, the net power consumed over a full cycle is:

Ans

🗙 1. 220 W

× 2. 4.84 W

X 3. 2.20 W

🥓 4. 484 W

Question ID: 630680164443 Status: Answered

Chosen Option: 4

#### Q.3 Capacitors connected in series behave like:

X 1. galavanometer

X 2. resistors connected in series

X 3. potentiometer

4. resistors connected in parallel

Question ID: 630680164435

Status: Answered

Q.4	Consider a circuit with Resistance, Inductor and Capacitor connected in series. The phase difference between the current and the alternating voltage (at resonance) is:
Ans	Χ 1. π/2
	🗶 2. π

Question ID: 630680164444

Status: Answered

Chosen Option: 3

Q.5 If A and B are mutually exclusive events with  $P(A) = \frac{1}{2}P(B)$ , then P(A) = ?

Ans

1. 1/3

3. 04. π/4

- $\times$  2.  $\frac{1}{6}$
- $\times$  3.  $\frac{1}{4}$
- $\times$  4.  $\frac{1}{2}$

Question ID : 630680164491 Status : Answered Chosen Option : 1

Q.6 The electric field of a plane electromagnetic wave oscillates sinusoidally with a frequency of 2.0 × 10<sup>10</sup> Hz and an amplitude of 60 Vm<sup>-1</sup>. The wavelength (in cm) of the wave is (c = 3 × 10<sup>8</sup> ms<sup>-1</sup>):

Ans X 1. 0.15

**X** 2. 0.015

**X** 3. 0.66

**4**. 1.5

Question ID : 630680164447 Status : Answered Chosen Option : 2

Q.7 A parallel plate capacitor has a capacitance of 'C'. If the distance between the plates is reduced by half and the space between the plates is filled with a medium having dielectric constant 6, the new capacitance is:

Ans 🧼

**√** 1. 12C

X 2. 2C

X 3.6C

X 4. C/3

Question ID : 630680164434 Status : Answered

Let \* be binary operation defined on R by  $p*q = \frac{p+q}{2}, \forall p,q \in \mathbb{R}$ . The operation is:

Ans

- X 1. neither associative nor commutative
- ✓ 2. commutative but not associative
- X 3. commutative and associative
- X 4. associative but not commutative

Question ID: 630680164466

Status: Answered

Chosen Option: 3

#### Q.9 Electric conduction in a semiconductor takes place due to:

- X 1. neither holes nor electrons
  - 2. both holes and electrons
  - X 3. only electrons
  - X 4. only holes

Question ID: 630680164460

Status: Answered

Chosen Option: 2

#### Q.10 Consider a conductor of metal with non-uniform cross-section. The parameter that is constant is:

Ans

- X 1. drift velocity
- X 2. drift speed
- X 3. current density
- 4. current

Question ID: 630680164437

Status: Answered

Chosen Option: 1

# Q.11 The radius of the innermost orbit of hydrogen atom is $5.3 \times 10^{-11}$ m. The radii of n=2 orbit

- **Ans**  $\times$  1. 21.2 × 10<sup>-10</sup> m
  - X 2. 10.6 × 10<sup>-10</sup> m
  - **X** 3. 1.06 × 10<sup>-10</sup> m
  - **✓** 4. 2.12 × 10<sup>-10</sup> m

Question ID: 630680164451

Status: Answered

The derivative of  $\tan^{-1} \left( \frac{\sqrt{1+x^2}-1}{x} \right)$  with respect to  $\tan^{-1} x$  is:

Ans

$$\times$$
 1.  $\frac{1}{1+x^2}$ 

**√** 2. 
$$\frac{1}{2}$$

$$\times 3. \ \frac{\sqrt{1+x^2}-1}{x^2}$$

Question ID: 630680164476

Status: **Answered** 

Chosen Option: 2

The value of  $\int \frac{1}{2x^2 + x - 3} dx$  is:

Ans

$$\times$$
 1.  $\log\left(\frac{2x+3}{x-1}\right)+c$ 

$$\times 2 \cdot \frac{1}{5} \log \left( \frac{2x+3}{x-1} \right) + c$$

$$\times$$
 3.  $\log\left(\frac{x-1}{2x+3}\right)+c$ 

$$\checkmark 4. \frac{1}{5} \log \left( \frac{x-1}{2x+3} \right) + c$$

Question ID: 630680164478

Status : **Answered** 

Chosen Option: 2

# Q.14 The resistivity of a current-carrying conducting wire is p. If the wire is doubled in length and its area of cross-section is reduced by half, the new resistivity is:

Ans X 1. double that of the old value

× 2. four times that of the old value

X 3. half that of the old value

4. same as the old value

Question ID: 630680164436

Status: Answered

If 
$$\begin{vmatrix} 2x-4 & 4 & 0 \\ 2 & x-1 & 1 \\ 2 & 2 & 0 \end{vmatrix} = 0$$
, then  $x = ?$ 

Question ID: 630680164470

Status: Answered

Chosen Option: 2

Q.16 If 
$$f(x) = 6 - 5x$$
,  $f: \mathbf{R} \to \mathbf{R}$ , where **R** is a set of all real numbers, then  $f$  is:

- ✓ 2. one to one and onto function
- X 3. only one to one function
- × 4. only function

Question ID: 630680164465

Status: Answered

Chosen Option : 3

If 
$$\int \frac{\sqrt{4+x^2}}{x^6} dx = \frac{A(4+x^2)^{\frac{3}{2}}(Bx^2-6)}{x^5} + C$$
, then A is:

Ans

$$\times$$
 2.  $-\frac{1}{120}$ 

Question ID: 630680164481

Status: Answered

The value of 
$$\lim_{x\to\infty} \left(\frac{2x-1}{2x+3}\right)^{\frac{x+1}{2}}$$
 is:

Ans

$$\times$$
 2.  $\frac{1}{e^2}$ 

$$\checkmark$$
 3.  $\frac{1}{\epsilon}$ 

Question ID: 630680164474

Status: Answered

Chosen Option: 2

Q.19

If 
$$x = a\left(t + \frac{1}{t}\right)$$
 and  $y = a\left(t - \frac{1}{t}\right)$ , then  $\frac{dx}{dy}$  is:

Ans

$$\times$$
 1.  $\frac{1}{x}$ 

$$\checkmark$$
 2.  $\frac{y}{x}$ 

$$\times$$
 4.  $\frac{x}{y}$ 

Question ID: 630680164477

Status: Answered

Chosen Option: 4

Q.20 A straight wire carries a current from north to south. The direction of the magnetic field at a point east of the wire will be:

Ans

- X 1. south to north
- X 2. vertically downward
- X 3. north to south
- 4. vertically upward

Question ID: 630680164439

Status: Answered

Q.21	The frequency of the electromagnetic wave produced by an oscillating (oscillating with frequency $\nu)$ is:	charge particle
Ans	<b>X</b> 1. 2v	
	<b>X</b> 2. 0	
	<b>X</b> 3. v/2	
	<b>✓</b> 4. ∨	
		Question ID : 630680164446 Status : Answered
		Chosen Option : 4
	The average value of alternating current during a full cycle is (i $_{\rm 0}$ is the p	peak value):
Ans	× 1. i <sub>0</sub> / 2π	
	× 2.2 i <sub>0</sub> / π	
	<b>X</b> 3. i₀	
	<b>✓</b> 4. 0	
		Question ID : <b>630680164445</b>
		Status : Answered
		Chosen Option : 4
	The charge carriers in a p-type semiconductor are:	
Ans	X 1. only holes	
	2. large number of holes and a small number of electrons	
	✗ 3. large number of electrons and a small number of holes	
	X 4. equal number of holes and electrons	
		Question ID : 630680164461
		Status : Answered
		Chosen Option : 2
	1	
Q.24	The electric flux passing through a surface of area $A = 8j \text{ m}^2$ in an elect $+ 3j - 4k \text{ V/m}$ (bold is for vectors) is:	ric field vector E = 2i
Ans	X 1. 16 V-m	
	<b>X</b> 2. 32 V-m	
	<b>X</b> 3. −32 V-m	
	<b>✓</b> 4. 24 V-m	
		Question ID: 630680164433
		Status : <b>Answered</b>
		Chosen Option : 4

Q.25 5 apples and 6 oranges are kept in a box. If three fruits are chosen at random, then the probability that 2 apples and one orange are picked is:

Ans

- 1. 4/11
- $\times$  2.  $\frac{5}{11}$
- $\times$  3.  $\frac{6}{11}$
- $\times$  4.  $\frac{4}{13}$

Question ID: 630680164490 Status: Answered

Chosen Option: 1

**Q.26** Consider three vectors p = 2i + 3j + 4k, q = i + 4j - k and r = 2i + 3j + k. If p, q and r denote the position vector of three non-collinear points, then the equation of the plane containing these points is:

Ans

- $\times$  1. x + y + 5 = 0
- $\times$  2. x y 5 = 0
- $\times$  3. x y + 5 = 0
- $\checkmark$  4. x + y 5 = 0

Question ID: 630680164488

Status: Answered

Chosen Option : 4

Q.27 A closely wound solenoid 80 cm long has 5 layers of windings of 400 turns each. The diameter of the solenoid is 1.8 cm. If the current carried is 8.0 A, the magnitude of the magnetic field inside the solenoid (near the centre) is:

Ans

- $\times$  1. 2 × 10<sup>-2</sup> T
- X 2. 2.5 T
- $\checkmark$  3. 2.5 × 10<sup>-2</sup> T
- X 4.2T

Question ID: 630680164441

Status : **Answered** 

Q.28 Consider the solar system as a large atom. The quantum number (n) that characterises Earth's orbit (radius =  $1.5 \times 10^{11}$  m) with Earth moving at an orbital speed of  $3 \times 10^4$  m/s is (mass of Earth is  $6 \times 10^{24}$  kg):

**X** 1. 2.56 Ans

**✓** 2. 2.56 × 10<sup>74</sup>

 $\times$  3. 2.56 × 10<sup>73</sup>

 $\times$  4. 2.56 × 10<sup>39</sup>

Question ID: 630680164452

Status: Answered

Chosen Option: 2

Q.29 The magnitude of magnetic force per unit length (N/m) on a wire carrying a current of 8 A and making an angle of 30° with the direction of a uniform magnetic field of 0.15 T is:

**X** 1. 0.8

**X** 2. 1.2

**X** 3. 0.15

**4**. 0.6

Question ID: 630680164440

Status: Answered

Chosen Option: 4

Q.30

The number of solutions of the matrix equation  $A^2 =$ 

Ans

√ 1 more than 2

× 2. no solution

X 3. less than 2

X 4. exactly 2

Question ID: 630680164473 Status: Answered

Chosen Option: 4

Q.31 A coin is tossed n times. If the probability of getting at least two heads is greater than that of getting at least three tails

by  $\frac{21}{128}$ , then n is:

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

Question ID: 630680164492

Status: Not Answered

Q.32 If  $A = \{1, 2, 3, 4, 5\}$ , then the relation  $R = \{(2, 3), (3, 4), (2, 4)\}$  on A is:

★ 1. symmetric only

✓ 2. transitive only

X 3. symmetric and transitive only

× 4. reflexive and transitive only

Question ID: 630680164463

Status: Answered

Chosen Option: 2

Q.33

If 
$$f(16) = 16$$
 and  $f'(16) = 5$ , then  $\lim_{x \to 16} \frac{\sqrt{f(x)} - 4}{\sqrt{x} - 4} = ?$ 

Ans X 1. 4

**√** 2. 5

X 3. 8

X 4. 6

Question ID: 630680164475

Status: Answered

Chosen Option: 2

If  $a\sin^2\theta + b\cos^2\theta = c$ , then  $\tan^2\theta = ?$ Q.34

$$\times$$
 1.  $\frac{a-c}{c-b}$ 

$$\checkmark$$
 2.  $\frac{c-b}{a-c}$ 

$$\times$$
 3.  $\frac{a-c}{b-c}$ 

$$\times$$
 4.  $\frac{b-c}{a-c}$ 

Question ID: 630680164468

Status: Answered

# Q.35 A 100 W light bulb is able to convert 10% of its power to visible radiation. The average intensity of the visible radiation at a distance of 1 m from the bulb is:

Ans

√ 1. 0.8 W/m²

X 2. 10 W

X 3. 0.08 W/m<sup>2</sup>

X 4. 8 W/m<sup>2</sup>

Question ID : 630680164448 Status : Answered

Chosen Option: 2

# Q.36 The instrument that is based on the principle that when an electric current flows in a coil placed in a magnetic field, a deflecting torque acts upon the coil is:

Δno

√ 1. moving coil galvanometer

X 2. moving coil flywheel

X 3. rheostat

X 4. current carrying conductor

Question ID: 630680164442

Status : **Answered** Chosen Option : **1** 

#### Q.37 Isotopes have the same number of:

Ans

X 1. nucleons

2. protons

X 3. deuterons

X 4. neutrons

Question ID : 630680164455

Status : **Answered** 

Chosen Option :  $\boldsymbol{2}$ 

Q.38 If 
$$\mathbf{a} = \vec{i} - 2\vec{j} + \vec{k}$$
,  $\mathbf{b} = \vec{i} + \vec{k}$ ,  $\mathbf{c} = 2\vec{j} - \vec{k}$ , then the area (in sq. units) of a parallelogram with diagonals  $\mathbf{a} + \mathbf{b}$  and  $\mathbf{b} + \mathbf{c}$  will be:

Ans

$$\times$$
 2.  $\frac{\sqrt{14}}{2}$ 

**√** 3. 
$$\sqrt{14}$$

Question ID: 630680164483 Status: Answered

Q.39

The value of the determinant 
$$\begin{vmatrix} b^2 - ab & b - c & bc - ac \\ ab - a^2 & a - b & b^2 - ab \\ bc - ac & c - a & ab - a^2 \end{vmatrix} = ?$$

Ans

- s X 1. abc
  - √ 2. 0
  - $\times$  3. ab + bc + ca
  - $\times$  4. a + b + c

Question ID: 630680164471 Status: Answered

Chosen Option: 2

Q.40 If  $f(x) = \frac{1}{1+x}$ ,  $g(x) = f\{f(x)\}$  and  $h(x) = f[f\{f(x)\}]$ , then the value of  $f(x) \cdot g(x) \cdot h(x)$  is:

Ans

- $\times$  1.  $\frac{1}{2x-3}$
- **X** 2. −1
- $\times$  3.  $\frac{1}{2x}$
- $\checkmark$  4.  $\frac{1}{2x+3}$

Question ID: 630680164464

Status : Not Attempted and Marked For Review

Chosen Option: --

Q.41 If  $3\sin x + 3\sin 4x = \sin y$  and  $3\cos x + 3\cos 4x = \cos y$ , then  $\cos 3x = ?$ 

Ans

- X 1. 1/18
- √ 2. -17/18
- X 3. -1/18
- X 4. 17/18

Question ID: 630680164469

Status : **Answered** 

Q.42 An electron beam with cross-section area 1.0 mm<sup>2</sup> has  $6 \times 10^{16}$  electrons (q =  $1.6 \times 10^{-19}$  C) passing per second perpendicular to any section. The current density (ampere per metre<sup>2</sup>) in the beam is:

Ans

- $\times$  1. 9.6 × 10<sup>2</sup>
- $\times$  2. 9.6 × 10<sup>-3</sup>
- $\checkmark$  3. 9.6 × 10<sup>3</sup>
- **X** 4. 9.6

- Question ID: 630680164438
  - Status: Answered
- Chosen Option: 3
- Q.43 A radioactive nucleus emits 3 alpha particles and 2 positrons. For the resultant nucleus, the ratio of neutrons to protons is (consider the initial nucleus to have atomic number Z and atomic mass A):

Ans

- X 1. (A Z 8) / (Z 4)
- X 2. (A Z 4) / (Z 2)
- √ 3. (A Z 4) / (Z 8)
- X 4. (A Z 12) / (Z 4)

- Question ID: 630680164456
  - Status: Answered
- Chosen Option: 3
- Q.44 The ratio of the volume of an atom to the volume of the nucleus is (in terms of order of magnitude):

Ans

- $\times$  1. 10<sup>25</sup>
- X 2.  $10^5$
- **X** 3. 10<sup>10</sup>
- **√** 4. 10<sup>15</sup>

- Question ID: 630680164454
  - Status : Answered
- Chosen Option: 1

Q.45 The source of energy in stars is:

Δne

- X 1. electron degeneracy
- X 2. dissociation of atoms
  - 3. nuclear fusion reaction
- X 4. nuclear fission reaction

Question ID: 630680164458

Status: Answered

### Q.46 Consider gamma rays, X-rays and UV rays travelling in a vacuum. All of these are traveling with\_

Ans

X 1. same speed and same frequency

- 2. same speed but different wavelengths
- X 3. same frequency but different speeds
- 4. same wavelength but different speeds

Question ID: 630680164449 Status: Answered

Chosen Option: 2

Q.47 If  $a = m\vec{i} + 16\vec{j}$  and |a| = 20, then find the value of m.

- √ 1. 12
- X 2. 10
- X 3. 11
- X 4. 14

Question ID: 630680164482

Status: Answered

Chosen Option: 1

Q.48 In the hydrogen atom, transition takes place from n=3 to n=2 orbit. The wavelength of the emitted radiation lies in the \_\_\_\_\_ region.

Ans

- ✓ 1. visible
- X 2. UV
- X 3. X-ray
- X 4. infrared

Question ID: 630680164453

Status: Answered

Chosen Option: 1

Q.49 The half life of a radioactive substance is 10 years and its initial mass is 1 g. The remaining amount after 20 years is \_\_\_\_\_.

- X 1. 0.75 g
- 🗶 2. 1.00 g
- X 3. 0.50 g
- √ 4. 0.25 g

Question ID: 630680164457

Status: Answered

Q.50 The angle between the lines 3x = 3y = -2z and 2x = -y = -3z is:

Ans

- X 1. 30°
- X 2. 60°
- √ 3. 90°
- X 4. 45°

Question ID: 630680164485

Status: Answered

Chosen Option: 3

Q.51 The value of  $\sin 10^{\circ} - \cos 10^{\circ}$  is:

Ans

- $\times 1. -\sqrt{2} \cos 35^{\circ}$
- $\checkmark$  2.  $-\sqrt{2} \sin 35^\circ$
- $\times$  3.  $\sqrt{2}\cos 35^\circ$
- $\times$  4.  $\sqrt{2}\sin 35^\circ$

Question ID : 630680164467

Status : Answered

Chosen Option: 2

**Q.52** The coordinates of the point that divides the join of (5, 6) and (-3, 6) in the ratio 3:5 are:

Ans

- **X** 1. (2, −6)
- **√** 2. (2, 6)
- **X** 3. (−2, −2)
- **X** 4. (−2, 6)

Question ID: 630680164484

Status: Answered

Chosen Option: 2

Q.53 What is the length of the perpendicular drawn from point (3, 4, 5) to line  $\frac{x}{1} = \frac{y-1}{2} = \frac{z-2}{3}$ ?

Ans

- X 1. 3√21
- $\checkmark$  2.  $\frac{3\sqrt{21}}{7}$
- $\times$  3.  $\frac{\sqrt{21}}{7}$
- $\times$  4.  $\frac{3}{7}$

Question ID: 630680164489

Status: Answered

#### Q.54 An unbiased p-n junction has holes diffusing from p-region to the n-region because:

Ans X 1. holes move across the junction following the potential difference

X 2. free electrons in the n-region attracts them

X 3. holes in the p-region repel them

✓ 4. hole concentration in p-region is more compared to the n-region

Question ID: 630680164462 Status: Answered

Chosen Option : 2

**Q.55** The value of k for which straight line x + y + 3z - 2 = 0 = 2x + y - z - 3 is parallel to the plane 3x + 2y + kz - 4 = 0 is:

Ans

- X 1. 3
- X 2. 1
- √ 3. 2
- **X** 4. −1

Question ID: 630680164487

Status: Answered

Chosen Option: 3

Q.56

The value of  $\int \frac{x^{3/2}}{\sqrt{1+x^5}} dx$  is:

Ans

$$\sqrt[4]{1} \cdot \frac{2}{5} \log \left( x^{5/2} + \sqrt{1 + x^5} \right) + c$$

$$\times$$
 2.  $\frac{1}{2}\log\left(\sqrt{1+x^5}\right)+c$ 

$$\times$$
 3.  $\frac{1}{2}\log\left(\frac{1+x^5}{1-x^5}\right)+c$ 

$$\times 4. \frac{2}{5} \log \left( x^{\frac{5}{2}} - \sqrt{1 + x^5} \right) + c$$

Question ID: 630680164479 Status: Answered

Q.57 The area bound by the parabolas  $y = 3x^2$  and  $x^2 - y + 4 = 0$  is:

Ans

$$\times$$
 1.  $\frac{16}{3}$ 

$$\checkmark$$
 2.  $\frac{16}{3}\sqrt{2}$ 

$$\times$$
 3.  $\frac{16}{3}\sqrt{3}$ 

$$\times$$
 4.  $16\sqrt{2}$ 

Question ID: 630680164480

Status: Not Answered

Chosen Option: --

Q.58 If P (2, 3, 4), Q (5, 8, 7) and R (-1, -2, 1) are collinear, then R divides PQ in the ratio:

Ans

X 1. 2:1 externally

X 2. 1: 2 internally

X 3. 2:1 internally

Question ID: 630680164486

Status: Answered

Chosen Option: 2

Q.59 When the length of a microscope tube is increased, its magnifying power:

Ans

X 1. remains the same

X 2. increases

X 3. becomes zero

4. decreases

Question ID: 630680164450

Status : Answered

Chosen Option: 4

Q.60 Silicon (at 300 K) has hole concentration (and equal electron concentration) of  $1.5 \times 10^{16}$  m<sup>-3</sup>. After indium is doped, the new hole concentration is  $4.5 \times 10^{22}$  m<sup>-3</sup>. The value of electron concentration in the doped silicon is:

Δns

$$\times$$
 1. 4.5 × 10<sup>22</sup> m<sup>-3</sup>

$$\times$$
 2. 3.0 × 10<sup>6</sup> m<sup>-3</sup>

$$\times$$
 3. 1.5 × 10<sup>16</sup> m<sup>-3</sup>

Question ID: 630680164459

Status: Not Answered