OFFICIAL PREVIOUS YEAR PAPER

AAI JE AO

Junior Executive (Airport Operations)

29 November 2018, Shift 1

Conducted by	Airports Authority of India
Questions	120, all multiple choice

Sections		
	General Knowledge	15
	Reasoning	15
	Numerical Ability	15
	English	15
	Domain Knowledge	60

Green tick = AAI's official answer.
Candidate details removed; nothing else changed.
Attempt it as a 120-minute mock, then check.
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Section : **General Knowledge**

Q.1 Which of the following aircrafts can carry passenger and freight sharing the same deck?

Ans
1. ✗ Jet aircrafts
2. ✗ Freighters
3. ✓ Combi aircrafts
4. ✗ Supersonic aircrafts

Question ID : **1573191581**
Status : **Answered**
Chosen Option : **3**

Q.2 With which of the following musical instruments is the musician Sikkil Mala Chandrasekhar associated?

Ans
1. ✗ Shehnai
2. ✓ Flute
3. ✗ Sitar
4. ✗ Saraswati Veena

Question ID : **1573191595**
Status : **Answered**
Chosen Option : **3**

Q.3 Which leading airline has the largest market share in India?

Ans
1. ✗ Jet Airways
2. ✗ Spice Jet
3. ✓ Indigo Airlines
4. ✗ Go Air

Question ID : **1573191588**
Status : **Answered**
Chosen Option : **3**

Q.4 Which of the following aircraft manufacturing companies manufactured the world's largest passenger airliner?

Ans
1. ✗ Antonov
2. ✓ Airbus
3. ✗ Boeing
4. ✗ Embraer

Question ID : **1573191582**

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

Q.5 Which of the following countries will host the ODI Cricket World Cup (ICC World Cup) 2019?

Ans
✔ 1. United Kingdom
✘ 2. South Africa
✘ 3. India
✘ 4. Australia

Question ID : **1573191594**
Status : **Answered**
Chosen Option : **1**

Q.6 When did ICAO start to function?

Ans
✘ 1. 1956
✔ 2. 1947
✘ 3. 1946
✘ 4. 1954

Question ID : **1573191583**
Status : **Answered**
Chosen Option : **2**

Q.7 When did BCAS become an independent body under the Ministry of Civil Aviation?

Ans
✔ 1. 1987
✘ 2. 1978
✘ 3. 1998
✘ 4. 1985

Question ID : **1573191589**
Status : **Answered**
Chosen Option : **1**

Q.8 Identify the airline that is a joint venture between Tata Sons and Singapore Airlines?

Ans
✔ 1. Vistara Airlines
✘ 2. Air Pegasus
✘ 3. Air Asia India
✘ 4. Turbojet Airways

Question ID : **1573191587**
Status : **Answered**
Chosen Option : **1**

Q.9 Identify the international airport in India which was formerly known as Sahar International airport.

Ans
✔ 1. Chhatrapati Shivaji Maharaj International Airport
✘ 2. Indira Gandhi International Airport
✘ 3. Rajiv Gandhi International Airport
✘ 4. Anna International Airport

Question ID : **1573191592**

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Status : **Answered**
Chosen Option : **3**

Q.10 Expand the aviation term METAR.

Ans
✔ 1. Meteorological Aerodrome Report
✘ 2. Maximum Extension of Terminal Access Road
✘ 3. Mean Terminal Aerodrome Range
✘ 4. Meteorological Aerodrome Range

Question ID : **1573191585**
Status : **Answered**
Chosen Option : **1**

Q.11 The four forces acting on an aircraft in flight are:

Ans
✘ 1. lift, gravity, power and friction
✘ 2. lift, weight, gravity and thrust
✔ 3. lift, weight, thrust and drag
✘ 4. lift, power, thrust and gravity

Question ID : **1573191590**
Status : **Answered**
Chosen Option : **3**

Q.12 Which instrument in the cockpit of an aircraft shows the pilot the altitude above sea level?

Ans
✘ 1. Compass
✘ 2. Airspeed indicator
✔ 3. Altimeter
✘ 4. Heading indicator

Question ID : **1573191591**
Status : **Answered**
Chosen Option : **3**

Q.13 What is the full form of DGCA?

Ans
✘ 1. Director General of Civil Airports
✔ 2. Directorate General of Civil Aviation
✘ 3. District Governor of Civil Airports
✘ 4. Director General of Commercial Aircrafts

Question ID : **1573191586**
Status : **Answered**
Chosen Option : **2**

Q.14 Identify the domestic airline in India that pioneered the concept of low cost carriers.

Ans
✘ 1. Go Air
✘ 2. Kingfisher Airlines
✘ 3. Jet Airways

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✔ 4. Air Deccan

Question ID : **1573191584**
Status : **Answered**
Chosen Option : **1**

Q.15 Which country won the South Asian Football Federation (SAFF) Under-15 Women's Championship?

Ans
✘ 1. Bhutan
✔ 2. India
✘ 3. Afghanistan
✘ 4. Pakistan

Question ID : **1573191593**
Status : **Answered**
Chosen Option : **2**

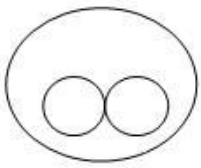
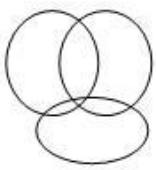
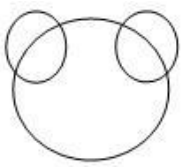
Section : **General Intelligence**

Q.1 Find the ODD one out.

Ans
✔ 1. Freeze
✘ 2. Simmer
✘ 3. Boil
✘ 4. Bake

Question ID : **1573191596**
Status : **Answered**
Chosen Option : **3**

Q.2 Which of the following Venn diagrams correctly represents the relationship between Coffee, Wine, Liquid?

Ans
✔ 1. 
✘ 2. 
✘ 3. 
✘ 4. 

Question ID : **1573191607**
Status : **Answered**
Chosen Option : **1**

Q.3 In a certain code language, '@#S*' means 'go for morning walk', '%S?' means 'good for health' and 'x ?^ *' means 'good to walk fast', then what is the code representing 'for' in that language?

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Ans
1. ?
2. @
3. X
4. $ ✔

Question ID : **1573191597**
Status : **Answered**
Chosen Option : **4**

Q.4 Swati walked 30 metre towards South. Then she turned to her left and walked 15 metre. She then turned to her left and walked 30 metre. She again turned to her right and walked 15 metre.

At what distance is she from the starting point?

Ans
1. 20 metre
2. 30 metre ✔
3. 50 metre
4. 25 metre

Question ID : **1573191606**
Status : **Answered**
Chosen Option : **2**

Q.5 Five students took part in a cycle race. Gowtham finished before Mahesh but behind Sudhesh. Aswin finished before Surya but behind Mahesh.

Who won the race?

Ans
1. Gowtham
2. Aswin
3. Mahesh
4. Sudhesh ✔

Question ID : **1573191601**
Status : **Answered**
Chosen Option : **4**

Q.6 If the 17^{th} day of a month is three days earlier than Thursday, then what day will it be on the 19^{th} day of the month?

Ans
1. Thursday
2. Sunday
3. Wednesday ✔
4. Saturday

Question ID : **1573191598**
Status : **Answered**
Chosen Option : **3**

Q.7 Kavitha introduces a man as the son of the brother of her mother. How is the man related to Kavitha?

Ans
1. Son
2. Father
3. Cousin ✔
4. Uncle

Question ID : **1573191602**
Status : **Answered**
Chosen Option : **3**

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Q.8 There are six children in a family, namely G, H, I, J, K and L. G and K are brothers. L is the sister of K. I is the only son of G's uncle. H and J are the daughters of the brother of I's father.

Out of the six children, how many are females?

Ans
1. 1 ✗
2. 4 ✗
3. 2 ✗
4. 3 ✓

Question ID : **1573191599**
Status : **Answered**
Chosen Option : **4**

Q.9 Which of the four interchanges in signs and numbers would make the below equation correct?

$4 \times 6 - 2 = 14$

Ans
1. – and ÷, 2 and 6 ✗
2. × and +, 4 and 6 ✗
3. × and ÷, 2 and 4 ✗
4. – and +, 2 and 6 ✓

Question ID : **1573191604**
Status : **Answered**
Chosen Option : **2**

Q.10 Find the term that does NOT fit into the below series:

F-6, I-9, L-11, O-15, R-18, U-21, X-24

Ans
1. U-21 ✗
2. O-15 ✗
3. L-11 ✓
4. R-18 ✗

Question ID : **1573191605**
Status : **Answered**
Chosen Option : **3**

Q.11 Which will come in place of question mark in the below table?

A	D	G
D	?	N
I	P	W

Ans
1. I ✓
2. H ✗

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3. J

4. O

Question ID : **1573191610**
Status : **Answered**
Chosen Option : **1**

Q.12 Select the number that is related to the third number in the same way as the second number is related to the first number.

6 : 215 : : 10 : _____

Ans

1. 1010
2. 99
3. 999
4. 1001

Question ID : **1573191608**
Status : **Answered**
Chosen Option : **3**

Q.13 Seven poles - L, M, N, O, P, Q and R, are put in such a way that the distance between the next two decreases by 1 metre.
The distance between the first two poles, L and M, is 10 metre.

What is the distance between the first pole L and the last pole R?

Ans

1. 50 metre
2. 45 metre
3. 40 metre
4. 35 metre

Question ID : **1573191609**
Status : **Answered**
Chosen Option : **2**

Q.14 Select the option that is related to the third word in the same way as second word is related to the first word.

Best : Worst : : Initial : _____

Ans

1. First
2. Start
3. Begin
4. Final

Question ID : **1573191600**
Status : **Answered**
Chosen Option : **4**

Q.15 Arrange the following letters to make a meaningful word and indicate the last letter of the word: E, I, L and K

Ans

1. L
2. I
3. E
4. K

Question ID : **1573191603**
Status : **Answered**
Chosen Option : **3**

Section : **General Aptitude**

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Q.1 Find the average of the prime numbers between 150 and 170.

Ans
✗ 1. 169.5
✗ 2. 158.5
✗ 3. 157.5
✓ 4. 159.5

Question ID : **1573191616**
Status : **Answered**
Chosen Option : **4**

Q.2 If 75 m of a uniform rod weighs 212 kg, then what will be the weight of 36 m of the same rod?

Ans
✗ 1. 101.67 kg
✓ 2. 101.76 kg
✗ 3. 110 kg
✗ 4. 100 kg

Question ID : **1573191617**
Status : **Answered**
Chosen Option : **2**

Q.3 Arjun and Bhasker can complete a task in 16 days working together. Bhasker alone can do it in 20 days. After working for 8 days, Bhasker left the task. How many days will Arjun take to complete the remaining task?

Ans
✓ 1. 48
✗ 2. 32
✗ 3. 16
✗ 4. 8

Question ID : **1573191623**
Status : **Answered**
Chosen Option : **1**

Q.4 Which of the following options should replace the question mark (?) in the following equation?

$43.24 - 38.16 = ? \times 20$

Ans
✗ 1. 25.4
✓ 2. 0.254
✗ 3. 0.0254
✗ 4. 2.54

Question ID : **1573191611**
Status : **Answered**
Chosen Option : **2**

Q.5 Identity the INCORRECT number from the given series.

10, 11, 15, 24, 40, 65, 100

Ans
✗ 1. 40
✓ 2. 100
✗ 3. 15
✗ 4. 65

Question ID : **1573191614**

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Status : **Answered**
Chosen Option : **2**

Q.6 Kamal and Dinesh invested in a business in the ratio of 5 : 7 respectively. After four months, Manohar entered the business with an investment of capital equal to that of Dinesh. What will be the ratio of their profits at the end of the year?

Ans
1. ✗ 15 : 12 : 14
2. ✗ 15 : 12 : 7
3. ✗ 1 : 2 : 3
4. ✓ 15 : 21 : 14

Question ID : **1573191621**
Status : **Answered**
Chosen Option : **2**

Q.7 A box has 200 pink balls, 120 purple balls and 150 orange balls. 40% of pink balls and 60% of orange balls are taken away. What is the percentage of purple balls in the box?

Ans
1. ✗ $40\frac{1}{3}$
2. ✗ 30
3. ✗ $30\frac{1}{3}$
4. ✓ 40

Question ID : **1573191618**
Status : **Answered**
Chosen Option : **4**

Q.8 Which sum amounts to ₹2,188.68 in 8 years at 7% simple interest per annum?

Ans
1. ✗ ₹ 1,500
2. ✗ ₹ 1,303
3. ✗ ₹ 1,800
4. ✓ ₹ 1,403

Question ID : **1573191622**
Status : **Answered**
Chosen Option : **4**

Q.9 Two trains are moving in opposite directions with speeds of 50 m/s and 40 m/s, respectively. Find their relative speed.

Ans
1. ✓ 324 km/hr
2. ✗ 36 m/hr
3. ✗ 90 km/hr
4. ✗ 300 km/hr

Question ID : **1573191624**
Status : **Answered**
Chosen Option : **1**

Q.10 The ratio of the circumference of two circles is 5 : 8. What is the ratio of their corresponding areas?

Ans
1. ✗ 5 : 8
2. ✓ 25 : 64
3. ✗ 64 : 25

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✗ 4. $8:5$

Question ID : **1573191625**
Status : **Answered**
Chosen Option : **2**

Q.11 The difference between the ages of Ravi and Ashok is 12 years. The ratio between their ages is 9 : 11. What is the sum of their ages?

Ans
✗ 1. 129
✗ 2. 100
✗ 3. 90
✓ 4. 120

Question ID : **1573191619**
Status : **Answered**
Chosen Option : **4**

Q.12 The sum of the digits of a two-digit number is 12 and the difference between the two digits of the number is 4. What is the square root of the product of the two digits of the two-digit number?

Ans
✓ 1. $4\sqrt{2}$
✗ 2. $6\sqrt{2}$
✗ 3. 4
✗ 4. 8

Question ID : **1573191612**
Status : **Answered**
Chosen Option : **1**

Q.13 If the cost price of 64 articles is equal to the selling price of 48 articles, find the gain percentage.

Ans
✓ 1. $33\frac{1}{3}$
✗ 2. $25\frac{1}{3}$
✗ 3. 25
✗ 4. 33

Question ID : **1573191620**
Status : **Answered**
Chosen Option : **1**

Q.14 If 25% of (P + Q) = 75% of (P – Q), then the value of P : Q is:

Ans
✓ 1. 2 : 1
✗ 2. 3 : 1
✗ 3. 1 : 2
✗ 4. 1 : 3

Question ID : **1573191615**
Status : **Answered**
Chosen Option : **1**

Q.15 The ratio of two numbers is 7 : 9 and their LCM is 945. What is their HCF?

Ans
✗ 1. 14

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✔ 2. 15
✘ 3. 10
✘ 4. 12

Question ID : **1573191613**
Status : **Answered**
Chosen Option : **2**

Section : **General English**

Q.1 In the following sentence four words or phrases have been underlined. One of them is INCORRECT. Choose the incorrect word or phrase from the given options.

I am sorry that a previous engagement will prevent me being present at the inauguration ceremony

Ans
✘ 1. that a
✔ 2. me being present
✘ 3. will prevent
✘ 4. at the

Question ID : **1573191634**
Status : **Answered**
Chosen Option : **2**

Q.2 Select the most appropriate option to fill in the blank.

During the concert the string of his guitar _____.

Ans
✘ 1. was breaking
✘ 2. breaks
✘ 3. is breaking
✔ 4. broke

Question ID : **1573191637**
Status : **Answered**
Chosen Option : **4**

Q.3 Select the most appropriate option to fill in the blank.

My brother-in-law is admitted in hospital. Me and my son went to see _____.

Ans
✔ 1. him
✘ 2. you
✘ 3. her
✘ 4. them

Question ID : **1573191639**
Status : **Answered**
Chosen Option : **1**

Q.4 Select the correct passive form of the given sentence.

The Special Squads extended their operations and took away the sanctuary from the rebels.

Ans
✘ 1.
Their operations are being extended by the Special Squads and the sanctuary is being taken away from the rebels.
✔ 2.
Their operations were extended by the Special Squads and the sanctuary was taken away from the rebels.

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✗ 3.
Their sanctuary was extended by the Special Squads and the operations were taken away from the rebels.

✗ 4.
Their operations had been extended by the Special Squads and the sanctuary was taken away from the rebels.

Question ID : **1573191635**
Status : **Answered**
Chosen Option : **4**

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

_____ I land at the airport, I will ring you up.

Ans
✗ 1. While
✓ 2. When
✗ 3. Whereas
✗ 4. Until

Question ID : **1573191640**
Status : **Answered**
Chosen Option : **2**

Q.6 Select the most appropriate option to fill in the blank.

Machu Picchu is the _____ site I saw in Peru.

Ans
✗ 1. amazing
✗ 2. more amazing
✓ 3. most amazing
✗ 4. as amazing

Question ID : **1573191626**
Status : **Answered**
Chosen Option : **3**

Q.7 Select the WRONGLY spelt word.

Ans
✗ 1. technique
✗ 2. twelfth
✓ 3. tranquelity
✗ 4. triumph

Question ID : **1573191632**
Status : **Answered**
Chosen Option : **3**

Q.8 Select the most appropriate indirect form of the given sentence.

He said, "What are you up to, Captain Wingate?"

Ans
✓ 1. He asked Captain Wingate what he was up to.
✗ 2. He told Captain Wingate he should be up to something.
✗ 3. He asked Captain Wingate if he was up to something.

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✗ 4.

He said to Captain Wingate whether he was up to something.

Question ID : **1573191636**
Status : **Answered**
Chosen Option : **3**

Q.9 Select the most appropriate synonym of the given word.

STUBBORN

Ans
✗ 1. flexible
✓ 2. unyielding
✗ 3. docile
✗ 4. doubtful

Question ID : **1573191629**
Status : **Answered**
Chosen Option : **2**

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

It turned out to be quite a _____ film. I had expected it to be better.

Ans
✗ 1. disappointed
✗ 2. disgusted
✗ 3. disappoint
✓ 4. disappointing

Question ID : **1573191638**
Status : **Answered**
Chosen Option : **4**

Q.11 Select the option which is NOT an antonym of another word by way of adding the prefix 'il-'.

Ans
✗ 1. illegible
✗ 2. illiterate
✓ 3. illuminate
✗ 4. illogical

Question ID : **1573191631**
Status : **Answered**
Chosen Option : **3**

Q.12 In the following sentence four words or phrases have been underlined. One of them is INCORRECT. Choose the incorrect word or phrase from the given options.

The first penguin born in India died recently, a week after it's birth at Mumbai's Byculla Zoo.

Ans
✓ 1. it's birth
✗ 2. died recently
✗ 3. born in
✗ 4. The first

Question ID : **1573191633**

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Status : **Answered**
Chosen Option : **2**

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

I was sorry that I was away on tour when they visited our house. I couldn't meet _____.

Ans
✔ 1. them
✘ 2. her
✘ 3. you
✘ 4. him

Question ID : **1573191627**
Status : **Answered**
Chosen Option : **1**

Q.14 Select the most appropriate ANTONYM of the given word.

UNRAVEL

Ans
✘ 1. untangle
✔ 2. tie
✘ 3. free
✘ 4. straighten

Question ID : **1573191630**
Status : **Answered**
Chosen Option : **2**

Q.15 Select the most appropriate option to fill in the blank.

The child is very happy _____ he got the paints and brushes for his birthday.

Ans
✔ 1. Because
✘ 2. Although
✘ 3. In case
✘ 4. So that

Question ID : **1573191628**
Status : **Answered**
Chosen Option : **1**

Section : **Discipline**

Q.1 The largest number of possible maxima in interference fringe pattern obtained on the screen in Young's double slit experiment for double slit separation equal to twice the wavelength of sodium light will be:

Ans
✘ 1. Infinite
✘ 2. 3
✔ 3. 5
✘ 4. 2

Question ID : **1573191655**
Status : **Answered**
Chosen Option : **4**

Q.2 Which among the following implies overseeing the work of subordinates by their superiors? It is the act of watching and directing work and workers.

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Ans
✗ 1. Motivation
✗ 2. Communication
✗ 3. Leadership
✓ 4. Supervision

Question ID : **1573191692**
Status : **Answered**
Chosen Option : **4**

Q.3 The line $y = 2x + b$ is a tangent to the parabola $y^2 = 8x$, if:

Ans
✗ 1. $b = \frac{1}{2}$
✗ 2. $b = 2$
✗ 3. $b = -1$
✓ 4. $b = 1$

Question ID : **1573191675**
Status : **Answered**
Chosen Option : **2**

Q.4 If the sum 1!-2!+3!-4!+.....-10! is divided by 24, then the remainder will be:

Ans
✗ 1. 12
✗ 2. 21
✓ 3. 5
✗ 4. 9

Question ID : **1573191677**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.5 If $I_1 = \int_0^{\frac{\pi}{2}} \sin^2 x dx$ and $I_2 = \int_{-\frac{\pi}{2}}^{\frac{\pi}{2}} \frac{\sin^2 x}{1+3^x} dx$, then:

Ans
✗ 1. $I_2 - I_1 = \frac{\pi}{2} - \log 3$
✗ 2. $I_1 + I_2 = \frac{\pi}{2} + \log 3$
✗ 3. $I_1 + I_2 = 0$
✓ 4. $I_2 - I_1 = 0$

Question ID : **1573191682**
Status : **Answered**
Chosen Option : **2**

Q.6 Using SONAR, a source of ultrasonic waves of frequency 0.06 MHz sends down a pulse towards the seabed, which returns back after 0.80 s. If the speed of sound in sea water is 1700 m/s, then the depth of sea and the wavelength of the pulse respectively are:

Ans
✗ 1. 550 m; 0.0243 m

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✔ 2. 680 m; 0.0283 m

✘ 3. 580 m; 0.0253 m

✘ 4. 660 m; 0.0273 m

Question ID : **1573191647**
Status : **Answered**
Chosen Option : **2**

Q.7 If the product and greatest common divisor of two numbers are 192 and 4 respectively, then least common multiple of these numbers will be:

Ans

✘ 1. 24

✘ 2. 12

✘ 3. 56

✔ 4. 48

Question ID : **1573191678**
Status : **Answered**
Chosen Option : **4**

Q.8 The pair of linear equations in two variables x and y, $\begin{matrix} 29x+37y+7=0 \\ 87x+74y+5=0 \end{matrix}$ will have:

Ans

✘ 1. infinite solution

✘ 2. trivial solution

✔ 3. unique solution

✘ 4. no solution

Question ID : **1573191688**
Status : **Answered**
Chosen Option : **3**

Q.9 Interference fringe pattern is obtained in Fresnel's biprism, using sodium light of mean wavelength of 589.3 nm. On introducing a thin sheet of a transparent material, having thickness of 1.1 μm in the path of one of the interfering beams, the central bright fringe is found to shift through a distance equal to the spacing between the successive bright fringes. Then, refractive index of the material of the transparent sheet is nearly:

Ans

✘ 1. 1.60

✘ 2. 1.62

✘ 3. 1.50

✔ 4. 1.54

Question ID : **1573191656**
Status : **Answered**
Chosen Option : **4**

Q.10 Brilliant colours observed on thin films of oily surface and soapy water arise due to the optical phenomenon of _____.

Ans

✘ 1. dispersion

✘ 2. diffraction

✔ 3. interference

✘ 4. scattering

Question ID : **1573191653**
Status : **Answered**
Chosen Option : **1**

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Q.11 In a toy factory, machines A, B and C manufacture 30%, 40%, 30% of the output respectively. Out of their total output, 2%, 3%, 1% are defective. A toy is taken from the factory and is found to be defective. The probability that it was taken from machine B is:

Ans
1. $\frac{4}{5}$
2. $\frac{2}{9}$
3. $\frac{3}{4}$
4. $\frac{4}{7}$ ✔

Question ID : **1573191685**
Status : **Answered**
Chosen Option : **4**

Q.12 In a triangle ΔABC, if $AB = 5$, $BC = 3$ and $CA = 4$, then the value of $\sin\frac{A}{2} + \tan\frac{A}{2}$ is:

Ans
1. $3+\sqrt{10}$
2. $\frac{1+\sqrt{10}}{9}$
3. $\frac{3+\sqrt{10}}{3\sqrt{10}}$ ✔
4. $\frac{9+\sqrt{10}}{6}$

Question ID : **1573191686**
Status : **Answered**
Chosen Option : **3**

Q.13 Sunlight filtering through the space between the leaves of a tree often makes circular patches on the ground due to _____.

Ans
1. the phenomenon of refraction of light
2. the phenomenon of diffraction of light ✔
3. the space between the leaves through which the sunlight penetrates
4. the phenomenon of scattering of light

Question ID : **1573191641**
Status : **Answered**
Chosen Option : **2**

Q.14 The longest wavelength of the ultrasonic waves in air at room temperature is nearly:

Ans
1. 11 mm
2. 21 mm
3. 17 mm ✔
4. 27 mm

Question ID : **1573191645**
Status : **Answered**
Chosen Option : **2**

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Q.15 If two dice are thrown, then the probability that at least one of the dice shows a number less than 5 is:

Ans
1. $\frac{7}{9}$ ✗
2. $\frac{8}{9}$ ✓
3. $\frac{1}{3}$ ✗
4. $\frac{2}{3}$ ✗

Question ID : **1573191665**
Status : **Answered**
Chosen Option : **2**

Q.16 Which one of the following particles in motion, having same velocity, has the longest wavelength?

Ans
1. A proton ✗
2. An alpha particle ✗
3. An electron ✓
4. A neutron ✗

Question ID : **1573191643**
Status : **Answered**
Chosen Option : **3**

Q.17 A fast moving electron can have the speed _____.

Ans
1. slightly less than the speed of light in vacuum ✓
2. equal to the speed of sound in air ✗
3. equal to the speed of light in vacuum ✗
4. slightly more than the speed of light in vacuum ✗

Question ID : **1573191650**
Status : **Answered**
Chosen Option : **1**

Q.18 If $\lim_{x\to\infty}\left(ax+\left(\frac{7-\sqrt{3}x^2}{3-x}\right)\right)=b$, a finite number, then the values of a and b are:

Ans
1. $a=-\sqrt{3}$, $b=3\sqrt{3}$ ✓
2. $a=3$, $b=\sqrt{3}$ ✗
3. $a=2\sqrt{3}$, $b=-3$ ✗
4. $a=-2\sqrt{3}$, $b=2\sqrt{3}$ ✗

Question ID : **1573191687**
Status : **Answered**
Chosen Option : **2**

Q.19 _____ manages issues broadly related to recruiting, hiring, training, evaluating and rewarding employees.

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Ans
✗ 1. Finance
✗ 2. Sales
✗ 3. Marketing
✓ 4. Human Resource

Question ID : **1573191695**
Status : **Answered**
Chosen Option : **4**

Q.20 The greatest value of $5\sin^2 x + 7\cos^2 x - 4\sin x\cos x$ will be:

Ans
✗ 1. $6-\sqrt{5}$
✓ 2. $6+\sqrt{5}$
✗ 3. $-6+\sqrt{5}$
✗ 4. $-6-\sqrt{5}$

Question ID : **1573191671**
Status : **Answered**
Chosen Option : **3**

Q.21 Which one of the following optical phenomena gives evidence that light waves are transverse?

Ans
✗ 1. Rectilinear propagation of light
✓ 2. Polarization of light
✗ 3. Diffraction of light
✗ 4. Interference of light

Question ID : **1573191658**
Status : **Answered**
Chosen Option : **2**

Q.22 Laser beam is highly intense, monochromatic and coherent, and can be used in monochromatic light and the experiments for the phenomenon of _____.

Ans
✗ 1. polarization of light
✓ 2. interference of light
✗ 3. diffraction of light
✗ 4. scattering of light

Question ID : **1573191652**
Status : **Answered**
Chosen Option : **2**

Q.23 In a piezoelectric generator, the quartz crystal is made to oscillate at its natural frequency of LC circuit to produce ultrasonic waves of 1 MHz with a capacitor of 1 MHz with a capacitor of capacitance of 25 nF in the tank circuit. Then, the inductance of the coil used in the tank circuit is nearly:

Ans
✗ 1. 3 μH
✗ 2. 2 μH
✓ 3. 1 μH
✗ 4. 4 μH

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Question ID : **1573191646**
Status : **Answered**
Chosen Option : **4**

Q.24 The Heisenberg's uncertainty principle relation holds true for all the canonically conjugate physical quantities. For which one of the following pairs of physical quantities, the uncertainty relation CANNOT hold true?

Ans

✗ 1. Position and linear momentum

✓ 2. Linear momentum and angle

✗ 3. Angular momentum and angle

✗ 4. Energy and time

Question ID : **1573191663**
Status : **Answered**
Chosen Option : **4**

Q.25 For two events A and B, which of the following relations is true?

Ans

✓ 1. $P(\bar{A} \cup \bar{B}) = 1 - P(A)\, P\left(\frac{B}{A}\right)$

✗ 2. $P(\bar{A} \cup \bar{B}) = 1 - P(A \cup B)$

✗ 3. $P(\bar{A} \cup \bar{B}) = P(\overline{A \cup B})$

✗ 4. $P(\bar{A} \cup \bar{B}) = P(\bar{A}) + P(\bar{B})$

Question ID : **1573191666**
Status : **Answered**
Chosen Option : **2**

Q.26 All of the following are key features of management, EXCEPT:

Ans

✗ 1. management is all pervasive

✗ 2. management is goal-oriented

✓ 3. management is a one-time process

✗ 4. management is a group activity

Question ID : **1573191699**
Status : **Answered**
Chosen Option : **3**

Q.27 Which one of the following statements regarding the magnetic materials is NOT correct?

Ans

✗ 1. Diamagnetic susceptibility is independent on temperature.

✗ 2. Ferromagnetic susceptibility is dependent on temperature.

✓ 3. Paramagnetic susceptibility is independent on temperature.

✗ 4. Paramagnetic susceptibility is dependent on temperature.

Question ID : **1573191661**
Status : **Answered**
Chosen Option : **3**

Q.28 The state of population inversion, necessary for laser action with the occurrence of stimulated emission, used in solid state lasers is by _____.

Ans

✗ 1. direct conversion

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✗ 2. inelastic atom - atom collisions

✗ 3. electrical discharge

✓ 4. optical pumping

Question ID : **1573191651**
Status : **Answered**
Chosen Option : **4**

Q.29 The speed of a fast moving electron, having energy of 3 MeV, in terms of speed of light in vacuum c, is:

Ans

✓ 1. 0.985 c

✗ 2. 0.966 c

✗ 3. 0.895 c

✗ 4. 0.886 c

Question ID : **1573191648**
Status : **Answered**
Chosen Option : **4**

Q.30 Total energy of a moving particle is twice its rest mass energy. Then, the ratio of its relativistic speed to the speed of light in vacuum will be:

Ans

✗ 1. $\sqrt{2}:5$

✗ 2. $\sqrt{2}:3$

✗ 3. $\sqrt{3}:5$

✓ 4. $\sqrt{3}:2$

Question ID : **1573191649**
Status : **Answered**
Chosen Option : **1**

Q.31 Solution of differential equation $e^{x+y}dx + e^{y-2x}dy = 0$ will be _____, where c is an arbitrary constant.

Ans

✗ 1. $y+e^{3x}=c$

✗ 2. $\frac{y}{3}-e^{2x}=c$

✓ 3. $3y+e^{3x}=c$

✗ 4. $y-e^{3x}=c$

Question ID : **1573191683**
Status : **Answered**
Chosen Option : **3**

Q.32 If the lines $x+2y+1=0$, $8x+12y+k=0$, $3x-2y+5=0$ are concurrent, then the value of k is:

Ans

✗ 1. 11

✗ 2. 5

✓ 3. 9

✗ 4. 7

Question ID : **1573191673**
Status : **Answered**
Chosen Option : **3**

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Q.33 If the ratio of surface area to volume of a cuboid is $\sqrt{3}$, then the sum of reciprocals of the three sides (length, breadth and height) of the cuboid will be:

Ans
1. $\sin\frac{\pi}{2}$
2. $\sin\pi$
3. $\sin\frac{\pi}{4}$
4. $\sin\frac{\pi}{3}$

Question ID : **1573191681**
Status : **Answered**
Chosen Option : **2**

Q.34 Which among the following functions generates revenues for an organisation by selling products and encouraging or stimulating purchases?

Ans
1. Marketing
2. Operations
3. Finance
4. Human Resource

Question ID : **1573191690**
Status : **Answered**
Chosen Option : **1**

Q.35 The linear equation in two variables x and y, $6x+22y=14$ will have:

Ans
1. no integer-valued solution
2. integer-valued solutions
3. unique solution
4. no solution

Question ID : **1573191679**
Status : **Answered**
Chosen Option : **4**

Q.36 Which among the following is the first task of Strategic Planning?

Ans
1. Setting objectives
2. Developing a strategic vision and a business mission
3. Crafting a strategy to achieve the objectives
4. Identifying and setting priorities for the execution of strategies

Question ID : **1573191697**
Status : **Answered**
Chosen Option : **2**

Q.37 For what value of $\alpha+\beta$, the three points (α,β) , $(5,0)$, $(0,5)$ will be collinear?

Ans
1. 5

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2. -25

3. 0

4. 25

Question ID : **1573191680**
Status : **Answered**
Chosen Option : **1**

Q.38 Personnel Management consists of all of the following, EXCEPT:

Ans

1. training

2. recruitment

3. administration of earning

4. manpower planning

Question ID : **1573191694**
Status : **Answered**
Chosen Option : **3**

Q.39 The area enclosed by a complete hysteresis loop on B-H curve of a ferromagnetic material denotes _____.

Ans

1. the energy dissipated in taking the specimen material during each complete cycle of magnetisation

2. the coercivity of the specimen

3. the retentivity of the specimen

4. the residual magnetism

Question ID : **1573191662**
Status : **Answered**
Chosen Option : **1**

Q.40 All of the following are methods of grapevine communication, EXCEPT:

Ans

1. cluster chain

2. star chain

3. policy circulars

4. single chain

Question ID : **1573191700**
Status : **Answered**
Chosen Option : **3**

Q.41 The coefficient of x^{12} in the expansion of $\left(3x^2+\frac{1}{x}\right)$ is:

Ans

1. $\binom{30}{C}_{15} 3^{15}$

2. $\binom{30}{C}_{10} 3^{12}$

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✗ 3. $\binom{30}{12} 3^{12}$

✓ 4. $\binom{30}{16} 3^{14}$

Question ID : **1573191668**
Status : **Answered**
Chosen Option : **2**

Q.42 The phenomenon of polarization CANNOT occur in _____.

Ans

✗ 1. radio waves

✗ 2. x- rays

✓ 3. acoustic waves

✗ 4. visible light waves

Question ID : **1573191657**
Status : **Answered**
Chosen Option : **3**

Q.43 The value of $2\tan^{-1}\frac{2}{3}+\cos^{-1}\frac{12}{13}$ is:

Ans

✓ 1. $\frac{\pi}{2}$

✗ 2. π

✗ 3. $\frac{\pi}{4}$

✗ 4. $\frac{\pi}{3}$

Question ID : **1573191672**
Status : **Answered**
Chosen Option : **4**

Q.44 A _____ may be defined as an occupation that requires specialised knowledge and intensive academic preparations and to which entry is regulated by a representative body.

Ans

✗ 1. Hobby

✗ 2. Passion

✓ 3. Profession

✗ 4. Goal

Question ID : **1573191693**
Status : **Answered**
Chosen Option : **3**

Q.45 If 37 and 43 are the means of two samples of size 13 and 17 respectively, then the mean of their combined sample will be:

Ans

✗ 1. 38.9

✓ 2. 40.4

✗ 3. 39.7

✗ 4. 41.2

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Question ID : **1573191684**
Status : **Answered**
Chosen Option : **2**

Q.46 A proton and an alpha particle are accelerated in a field of same potential difference. Then, the ratio of the Broglie wavelengths associated with the moving material particles is:

Ans
✔ 1. $2\sqrt{2} : 1$
✘ 2. $1 : 2$
✘ 3. $4 : 1$
✘ 4. $2 : 1$

Question ID : **1573191664**
Status : **Answered**
Chosen Option : **2**

Q.47 In a Young's double slit experimental set-up, interference fringe pattern has been obtained with sodium light. If the entire experimental set-up were displaced from air and then immersed in clear water, contained in a suitable transparent tank, then the fringe pattern will likely _____.

Ans
✘ 1. remain unchanged
✘ 2. be enlarged significantly
✔ 3. shrink considerably
✘ 4. disappear completely

Question ID : **1573191654**
Status : **Answered**
Chosen Option : **1**

Q.48 Which level of management devotes more time on planning and coordinating functions?

Ans
✘ 1. Middle level
✘ 2. Entry level
✔ 3. Top level
✘ 4. Lower level

Question ID : **1573191698**
Status : **Answered**
Chosen Option : **3**

Q.49 The value of k, for which the following system of linear equations has a non-trivial solution,

$$x + 2y - 3z = 0$$
$$2x + y + z = 0$$
$$x - y + kz = 0$$

will be:

Ans
✔ 1. 4
✘ 2. 2
✘ 3. 3
✘ 4. -4

Question ID : **1573191667**
Status : **Answered**
Chosen Option : **1**

Q.50 The working of Nicol prism is based on the optical phenomenon of _____.

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Ans
✗ 1. refraction of light
✗ 2. scattering of light
✓ 3. double refraction of light
✗ 4. reflection of light

Question ID : **1573191659**
Status : **Answered**
Chosen Option : **1**

Q.51 If one root of the quadratic equation $x^2 - 8tx - 25 = 0$ is $3 + 4t$, then the other root must be:

Ans
✗ 1. $3 - 4t$
✗ 2. $-3 - 4t$
✗ 3. $3 + 4t$
✓ 4. $-3 + 4t$

Question ID : **1573191669**
Status : **Answered**
Chosen Option : **1**

Q.52 The sum of the series $1 + 2(a^2 + 1) + 3(a^2 + 1)^2 + 4(a^2 + 1)^3$ will be:

Ans
✓ 1. $\frac{1}{a^4}$
✗ 2. 1
✗ 3. $-\frac{1}{a^2}$
✗ 4. -1

Question ID : **1573191670**
Status : **Answered**
Chosen Option : **1**

Q.53 What is the term used for the process of passing information, experience, opinion, etc. from one person to another and which is also a bridge of understanding?

Ans
✗ 1. Controlling
✓ 2. Communication
✗ 3. Planning
✗ 4. Motivation

Question ID : **1573191696**
Status : **Answered**
Chosen Option : **2**

Q.54 The distance of the highest point on the graph of the function $y = 12\cos x - 5\sin x$ from the $x-axis$ is:

Ans
✓ 1. 13
✗ 2. 12
✗ 3. 5
✗ 4. 17

Question ID : **1573191676**
Status : **Answered**
Chosen Option : **1**

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Q.55 What is the full form of MIS?

Ans
1. Master Information System
2. Management Innovation System
3. Management Innovation Section
4. Management Information System

Question ID : **1573191691**
Status : **Answered**
Chosen Option : **4**

Q.56 Let $f(x,y)=0$ represents a circle, If $f(0,a)$ has roots $a=2,3$ and $f(a,0)$ has roots $a=12,\frac{1}{2}$, then the centre of the circle is:

Ans
1. $\left(\frac{-5}{2},\frac{1}{6}\right)$
2. $\left(\frac{4}{25},\frac{2}{5}\right)$
3. $\left(\frac{2}{7},6\right)$
4. $\left(\frac{25}{4},\frac{5}{2}\right)$

Question ID : **1573191674**
Status : **Answered**
Chosen Option : **1**

Q.57 In a dielectric medium, the dielectric polarization P, electric displacement D and electric field E are related as:

Ans
1. $E = D - \varepsilon_0 P$
2. $P = \varepsilon_0 E + D$
3. $D = \varepsilon_0 E + P$
4. $D = P - \varepsilon_0 E$

Question ID : **1573191660**
Status : **Answered**
Chosen Option : **4**

Q.58 The characteristic impedance, as the ratio of the amplitudes of E- and H- vectors, in a plane electromagnetic wave in free space is nearly:

Ans
1. $3.77\ \Omega$
2. $376.7\ \Omega$
3. $0.0\ \Omega$
4. $37.7\ \Omega$

Question ID : **1573191642**
Status : **Answered**
Chosen Option : **3**

Q.59 In order to study internal atomic structure of crystals, we make use of electromagnetic radiations as _____.

Ans

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1. ultraviolet radiation
2. red light
3. yellow visible light
4. x- rays

Question ID : **1573191644**
Status : **Answered**
Chosen Option : **4**

Q.60 _____ is any plan of action intended to achieve a major or overall aim and also to beat the competition.

Ans
1. Sales
2. Project
3. Strategy
4. Finance

Question ID : **1573191689**
Status : **Answered**
Chosen Option : **3**

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