

**Navik  
GD**

**Memory Based Paper  
(Section I + II) 22 March  
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## 110 Questions

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**Que. 1** The cost price of a teddy is Rs.1500 and it was sold for Rs.1230, find the loss %?

1. 20%
2. 15%
3. 18%
4. 21%

Correct Option - 3

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**Que. 2** A train of length 105 m crosses a man in 15 seconds, and crosses a platform in 35 seconds, Then what is the length of the platform?

1. 245 meter
2. 140 meter
3. 300 meter
4. 150 meter

Correct Option - 2

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**Que. 3** 2.25 expressed as a percent of 15 is:

1. 20
2. 15
3. 18
4. 22

Correct Option - 2

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**Que. 4** Find the median of given data.

{13, 2, 5, 18, 6, 3, 6, 7, 8, 11, 17}

1. 6
2. 6.5
3. 7
4. 8

Correct Option - 3

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**Que. 5** Calculate the volume of sphere with diameter 42 cm.

1. 48007 cu cm
2. 42963 cu cm
3. 38808 cu cm
4. 28660 cu cm

Correct Option - 3

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**Que. 6** The ratio of three numbers is 2 : 3 : 4. The sum of these numbers is 108. What is the largest number?

1. 48
2. 46

3. 56
4. 42

Correct Option - 1

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**Que. 7** If A is 80% of B, what percent of A is B?

1. 125
2. 130
3. 122
4. 132

Correct Option - 1

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**Que. 8** If  $11\sqrt{n} = \sqrt{112} + \sqrt{343}$  then the value of n is:

1. 11
2. 13
3. 7
4. 3

Correct Option - 3

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**Que. 9** The speed of car A is two times of car B's speed. If car A covers a distance of 154 kilometers in 2 hours and 45 minutes then find the speed of the car B.

1. 42 km/hr
2. 28 km/hr
3. 27 km/hr
4. 21 km/hr

Correct Option - 2

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**Que. 10** If  $x + 1/x = 3$ , then find the value of  $x^6 + 1/x^6$ .

1. 365
2. 364
3. 322
4. 343

Correct Option - 3

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**Que. 11** If  $\sin(3A) = \cos(70^\circ - A)$ , then find the value of A?

1.  $8^\circ$
2.  $5^\circ$
3.  $7^\circ$
4.  $10^\circ$

Correct Option - 4

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**Que. 12** Find the area of the shaded region if the radius of the circle is 14 cm.



1.  $300 \text{ cm}^2$
2.  $304 \text{ cm}^2$
3.  $308 \text{ cm}^2$
4.  $312 \text{ cm}^2$

Correct Option - 3

**Que. 13** The ratio of the angles in a quadrilateral are in ratio  $2 : 6 : 4 : 8$ . Find the value of the smallest angle.

1.  $54^\circ$
2.  $36^\circ$
3.  $18^\circ$
4.  $24^\circ$

Correct Option - 2

**Que. 14** A sum of money amounts to Rs. 24000 in 2 years and Rs. 30000 in 5 years at simple interest, find the rate of interest.

1.  $50/3\%$
2.  $10\%$
3.  $20\%$
4.  $5\%$

Correct Option - 2

**Que. 15** The LCM of two numbers is 25 times their HCF. The product of the two numbers is 2025. Find the HCF.

1. 81
2. 45
3. 9
4. 18

Correct Option - 3

**Que. 16** Find the value of  $(\sin 78^\circ / \cos 12^\circ) - (\sin 63^\circ / \cos 27^\circ) + 3(\cos^2 69^\circ + \cos^2 21^\circ)$

1. 4
2. 3
3. 5
4. 6

Correct Option - 2

**Que. 17** 3 men and 4 women can complete the work in 10 days. 24 men and 2 women can complete the work in 2 days. What is time taken by 11 men and 3 women to complete it?

1. 2 days
2. 4 days
3. 8 days
4. 16 days

Correct Option - 2

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**Que. 18** Nitin purchases 4 seed bag at the same price. He sell two seed bags at 10% profit, one at 6% loss and the last one at 10% loss then find net profit or loss%.

1. 1% loss
2. 5% profit
3. 1% profit
4. 5% loss

Correct Option - 3

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**Que. 19** A bag contains Rs 110 in the form of Rs.1, 50 paise, and 25 paise coins. The ratio of the number of coins is 1 : 2 : 3. Find out the number of coins of 50 paise.

1. 80
2. 60
3. 30
4. 90

Correct Option - 1

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**Que. 20** The average of 15 numbers is 22. If the 16<sup>th</sup> number is added into them the average becomes 25 then what is the 16<sup>th</sup> number?

1. 70
2. 48
3. 60
4. 54

Correct Option - 1

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**Que. 21** Select the correct passive form of the given sentence:

Had he touched my bag?

1. Had my bag touched by him?
2. Have my bag been touched by him?
3. Had my bag been touched by him?
4. Has my bag been touched by him?

Correct Option - 3

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**Que. 22** Direction: Change the Voice -

Mona had cleaned the room.

1. The room had been cleaned by Mona.
2. The room have been cleaned by Mona.
3. The room had being cleaned by Mona.

4. The room has been cleaned by Mona.

Correct Option - 1

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**Que. 23** **Direction: Change the Narration-**

She said to me, "Will you come for the party?"

1. She asked whether I would come for the party.
2. She asked that she would come for the party.
3. She asked whether I will come for the party.
4. She asked that she will come for the party.

Correct Option - 1

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**Que. 24** **Direction: Which one of the following options correctly converts the sentence into indirect speech?**

The boy said, "I completed reading this book yesterday."

1. The boy said that he had completed reading that book the previous day.
2. The boy said he had completed reading the book yesterday
3. The boy told that he completed reading the book yesterday
4. The boy completed reading the book the previous day.

Correct Option - 1

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**Que. 25** **Direction: Find out which part has an error and mark it as your answer. If there is no error, mark 'No error' as your answer.**

My aunt can only crawl (A) / before the operation, (B) / but now she can walk and run. (C) / No error (D)

1. (A)
2. (B)
3. (C)
4. (D)

Correct Option - 1

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**Que. 26** **Direction: Pick out the most appropriate word from the words given below each sentence to complete it meaningfully.**

It has been raining \_\_\_\_\_ morning.

1. from
2. since
3. during
4. before

Correct Option - 2

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**Que. 27** **Direction: Fill in the blank with the most appropriate phrasal verb.**

Did you remember to \_\_\_\_\_ the water and gas before you left the house?

1. put on
2. put off
3. shut off
4. drop off

Correct Option - 3

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**Que. 28** **Direction:** Choose the most appropriate preposition and fill in the blank:

I think my best friend is talking bad about me \_\_\_\_\_ my back.

1. across
2. over
3. in
4. behind

Correct Option - 4

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**Que. 29** **Direction:** Select the most appropriate word for the given group of words.

someone who is satisfied with life in general.

1. contented
2. cooperative
3. contentious
4. contemplative

Correct Option - 1

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**Que. 30** **Direction:** Select the word which means the same as the group of words given.

A person who thinks he/she is the best.

1. Eccentric
2. Egoist
3. Selfish
4. Garrulous

Correct Option - 2

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**Que. 31** **Direction:** Choose the correct meaning of the following phrase/idiom.

Show off

1. Break
2. Flaunt
3. Boost
4. Increase

Correct Option - 2

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**Que. 32** **Direction:** Find the correct synonym of the following word.

Lucid

1. quick
2. correct
3. understandable
4. aback

Correct Option - 3

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**Que. 33** **Direction:** Select the most appropriate synonym of the given word.

MASQUERADED

1. Dropped
2. Acted

3. Managed
4. Disappeared

Correct Option - 2

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**Que. 34** Select the most appropriate ANTONYM of the given word.

CONCEALED

1. Hidden
2. Masked
3. Revealed
4. Discussed

Correct Option - 3

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**Que. 35** Directions: Select the most appropriate ANTONYM of the given word

IMPROMPTU

1. Planned
2. Fast
3. Appropriate
4. Unplanned

Correct Option - 1

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**Que. 36** Jama Masjid of Delhi was built by?

1. Akbar
2. Humayun
3. Babar
4. Shah Jahan

Correct Option - 4

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**Que. 37** Who discovered the circulation of Blood?

1. Louis Braille
2. George East man
3. Robert Koch
4. William Harvey

Correct Option - 4

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**Que. 38** Who was the first Indian to win Nobel Prize?

1. Rabindranath Tagore
2. S S Bhatnagar
3. J. C. Bose
4. C.V. Raman

Correct Option - 1

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**Que. 39** The rearing of silkworms for obtaining silk is known as

1. Apiculture
2. Sericulture



3. Horticulture
4. Silviculture

Correct Option - 2

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**Que. 40** Which of the following countries will host the 2023 women's T-20 Cricket World Cup?

1. India
2. Bangladesh
3. Australia
4. South Africa

Correct Option - 4

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**Que. 41** Car moving on a straight road is an example of \_\_\_\_\_ motion.

1. Rectilinear
2. Curvilinear
3. Random
4. Oscillatory

Correct Option - 1

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**Que. 42** Which of the following is the scientific name of Potato?

1. *Daucus carota*
2. *Solanum tuberosum*
3. *Raphanus sativus*
4. *Solanum melongena*

Correct Option - 2

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**Que. 43** Which disease is caused due to lack of vitamin D in the body?

1. Beriberi
2. Goiter
3. Scurvy
4. Rickets

Correct Option - 4

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**Que. 44** Which chemical is used to give green colour to firecrackers?

1. strontium carbonate
2. calcium chloride
3. sodium nitrate
4. barium chloride

Correct Option - 4

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**Que. 45** Physical quantity of \_\_\_\_\_ is measured in watt.

1. kinetic energy
2. power
3. momentum
4. impulse

Correct Option - 2

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**Que. 46** Beriberi disease is due to the deficiency of vitamin \_\_\_\_\_.

1. C
2. D
3. B<sub>1</sub>
4. B<sub>5</sub>

Correct Option - 3

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**Que. 47** Which of the following SI unit is used for mass density?

1. kg/m<sup>3</sup>
2. kg/m<sup>2</sup>
3. kg/m<sup>-3</sup>
4. kg/m

Correct Option - 1

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**Que. 48** Gravitational force is maximum at which of the following places ?

1. At equator
2. At tropic of cancer
3. At tropic of capricorn
4. At poles

Correct Option - 4

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**Que. 49** Which of the following is a vector quantity?

1. Distance
2. Speed
3. Work
4. Weight

Correct Option - 4

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**Que. 50** A block of mass 20 kg is moving with velocity 10 m/s on a rough horizontal surface. Maximum amount of heat that can be generated from this block is \_\_\_\_\_.

1. 1 KJ
2. 2 KJ
3. 0.5 KJ
4. Heat cannot be generated from it




Correct Option - 1

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**Que. 51** Select the Venn diagram that best illustrates the relationship between the following classes.

Vegetable, Brinjal, Ladies finger

1. 

2. 
3. 
4. 

Correct Option - 1



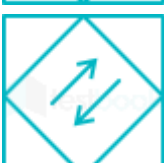
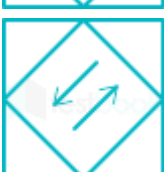
**Que. 52** If CAMP is coded as 6217 and FIRE is coded as 8954, then what is the code of PREFACE?

1. 7582642
2. 7518261
3. 7548264
4. 7584268

Correct Option - 3

**Que. 53** What will be the next figure in the series.



1. 
2. 
3. 
4. 

Correct Option - 3

**Que. 54** John points out to a lady and says, "She is the mother of my son's wife's daughter." How is the relation of the lady with John?

1. Uncle

2. Nephew
3. Daughter-in-law
4. None of the above

Correct Option - 3

**Que. 55** In the following questions, a square sheet of paper is folded along the dotted lines, and then cuts are made on it. How would the sheet look when opened?



- 1.
- 2.
- 3.
- 4.

Correct Option - 1

**Que. 56** Find the odd pair of numerals:

1. 6 : 20
2. 11 : 35
3. 18 : 56
4. 8 : 24

Correct Option - 4

**Que. 57** Select the option that is related to the third term on the same basis as the second term is related to the first term.

TUS : VWU :: FGE : ?

1. HIG
2. JKI

3. KLM
4. NOM

Correct Option - 1

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**Que. 58** If '+' means '×', '-' means '÷', '×' means '-' and '÷' means '+' then

$$18 \times 9 \div 3 + 8 - 4 = ?$$


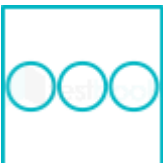


1. 15
2. 3
3. 1
4. 9

Correct Option - 1

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**Que. 59** Identify the diagram that best represents the relationship among classes given below:

Laptop, Mobile, Electronic device.

1. 
2. 
3. 
4. 

Correct Option - 3

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**Que. 60** P.V. Sindhu is related to badminton in the same way as Virat Kohli is related to:

1. Cricket
2. Basket ball
3. Football
4. Rukbey

Correct Option - 1

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**Que. 61** The energy radiated by a black body is directly proportional to

1.  $T^2$
2.  $T^{-2}$
3.  $T^4$
4.  $T$

Correct Option - 3

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**Que. 62** A charge  $Q$  is enclosed by a Gaussian spherical surface of radius  $R$ . If the radius is doubled, then the outward electric flux will

1. Be doubled
2. Increase four times
3. Be reduced to half
4. Remain the same

Correct Option - 4

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**Que. 63** The Young's modulus of a wire of length  $L$  and radius  $r$  is  $Y \text{ N/m}^2$ . If the length and radius are reduced to  $L/3$  and  $r/4$ , then its Young's modulus will be

1.  $Y$
2.  $Y/3$
3.  $Y/4$
4.  $Y/12$

Correct Option - 1

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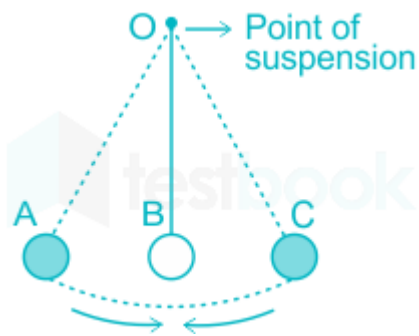
**Que. 64** The acceleration due to gravity is

1. maximum at the centre of the earth
2. negative at the centre of the earth
3. positive at the centre of the earth
4. zero at the centre of the earth

Correct Option - 4

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**Que. 65** Which of the following statement is CORRECT?



1. The Minimum Velocity and Maximum Acceleration will be at Point A only
2. The Minimum Velocity and Maximum Acceleration will be at Point A and C
3. The Maximum Velocity and Minimum Acceleration will be at Point A and B
4. The maximum Acceleration and Minimum Velocity will be at Point B only

Correct Option - 2

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**Que. 66** Curie temperature is the temperature above which

1. A paramagnetic material becomes ferromagnetic
2. A ferromagnetic material becomes paramagnetic
3. A paramagnetic material becomes diamagnetic
4. A ferromagnetic material becomes diamagnetic

Correct Option - 2

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**Que. 67** The direction of **electric field intensity (E)** at a point on the equatorial line of an electric dipole of **dipole moment (p)** is

1. along the equatorial line towards the dipole
2. along the equatorial line away from the dipole
3. perpendicular to the equatorial line and the opposite to p
4. perpendicular to the equatorial line and parallel to p along the axial line in the direction of p

Correct Option - 3

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**Que. 68** The terminal velocity of a copper ball of radius 2 mm falling through a tank of honey is 30 mm/s. What will be the drag force exerted by the oil on the copper ball if the viscosity of the oil is 1 N-s/m<sup>2</sup>.

1.  $1.13 \times 10^{-3}$  N
2.  $1.13 \times 10^{-6}$  N
3.  $36 \times 10^{-4}$  N
4.  $36 \times 10^{-6}$  N

Correct Option - 1

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**Que. 69** An object of mass m follows a circular path of radius r with a constant speed v in uniform circular motion. Then, the work done by the centripetal force for the object to move once in a full circle is

1.  $(MV^2/r).2r$
2. Zero
3.  $(Mv^2/r).2\pi r$
4.  $(MV^2/r).2\pi r$

Correct Option - 2

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**Que. 70** An observer is moving towards a stationary source of frequency 250 Hz with a velocity of 40 m/s. If the velocity of sound is 330 m/s, the apparent frequency heard by the observer will be:

1. 320 Hz
2. 300 Hz
3. 280 Hz
4. None of these

Correct Option - 3

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**Que. 71** What is the dimensional formula of strain?

1.  $M^0L^0T^0$
2.  $M^1L^{-1}T^{-2}$
3.  $M^0L^0T^{-1}$
4. None of the above

Correct Option - 1

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**Que. 72** What will be the photon energy in Joule if it has wavelength 2000 Å?

1.  $4.97 \times 10^{-19}$  J
2.  $2.48 \times 10^{-19}$  J
3.  $5.28 \times 10^{-19}$  J
4.  $9.94 \times 10^{-19}$  J

Correct Option - 4

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**Que. 73** An ideal gas heat engine is operating at Carnot cycle between  $200^{\circ}\text{C}$  and  $125^{\circ}\text{C}$ . If it absorbs 1000 J of heat at  $200^{\circ}\text{C}$ , the amount of heat converted into work is-

1. 160 J
2. 325 J
3. 560 J
4. 454 J

Correct Option - 1

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**Que. 74** Candela is unit of \_\_\_\_\_.

1. acoustic intensity
2. electric intensity
3. magnetic intensity
4. luminous intensity

Correct Option - 4

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**Que. 75** What is the coefficient of restitution for a perfectly elastic collision?

1. 0
2. 1
3.  $\infty$
4. between 0 and 1

Correct Option - 2

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**Que. 76** Water flows into a pipe of diameter 7 cm at 20 km/hr and exits through 'n' number of holes each of diameter 1 cm from the other end at 70 km/hr. Find 'n'.

1. 14
2. 7
3. 21
4. 28

Correct Option - 1

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**Que. 77** Choose the correct statement about P-type and N-type semiconductor.

1. P-type is intrinsic and N-type is extrinsic semiconductor.
2. Majority charge carrier of P-type is electrons and that of N-type is holes.
3. When trivalent impurity is added in intrinsic then P-type is formed and when pentavalent is added then N-type is formed.
4. All are correct.

Correct Option - 3

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**Que. 78** A particle of mass  $m$  is moving along a circle of radius  $R$  with a velocity  $v = 2t^3$ . Find the tangential acceleration of the particle at time  $(t) = 2$  sec ?

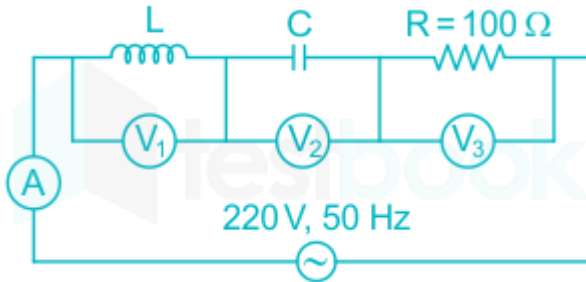
1.  $20 \text{ m/s}^2$
2.  $24 \text{ m/s}^2$
3.  $16 \text{ m/s}^2$



4.  $32 \text{ m/s}^2$

Correct Option - 2

**Que. 79** In the given circuit the reading of voltmeter  $V_1$  and  $V_2$  are 300 volts each. The reading of the voltmeter  $V_3$  and ammeter A are respectively



1. 100 V, 2.0 A
2. 150 V, 2.2 A
3. 220 V, 2.2 A
4. 220 V, 2.0 A

Correct Option - 3

**Que. 80** Two similar cubes A and B contains a charge  $q$  and  $2q$  respectively, then the ratio of the flux associated with the cube A to the cube B will be:

1. 1 : 2
2. 2 : 1
3. 1 : 1
4. None of these

Correct Option - 1

**Que. 81** Consider the following statements:

- a) Photon exerts no pressure.
- b) Rest mass of the photon is zero
- c) Energy of photon is  $h\nu$

Which of the following statements are correct?

1. Both a and b
2. Both b and c
3. Both a and c
4. All are correct

Correct Option - 2

**Que. 82** In Young's double slit experiment, the slits are separated by 0.28 mm and the screen is placed 1.4 m away. The distance between the fourth bright fringe and the central bright fringe is measured to be 1.2 cm. Calculate wavelength of light used in this experiment.

1. 350 nm
2. 700 nm
3. 600 nm
4. 500 nm

Correct Option - 3

**Que. 83** A thin ring of mass 5 kg and diameter 20 cm is rotating about its axis at 4200 rpm. Find its angular momentum (in  $\text{kgm}^2/\text{s}$ )?

1. 44
2. 11
3. 22
4. 33

Correct Option - 3

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**Que. 84** Find the magnification of the convex lens, if an object is placed 30 cm from a convex lens which has a focal length of 15 cm.

1. +1
2. +0.5
3. -0.5
4. -1

Correct Option - 4

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**Que. 85** If a wire in the circuit is replaced with a wire of resistivity four times and the length and cross-sectional area is the same. Then the current in the circuit will become:

1. One fourth
2. Four times
3. Half
4. Double

Correct Option - 1

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**Que. 86** Evaluate the integral  $\int_0^{\frac{\pi}{2}} \frac{1}{1+\tan x} dx$

1.  $\frac{\pi}{4}$
2.  $\frac{\pi}{2}$
3.  $\frac{\pi}{6}$
4. None of the above

Correct Option - 1

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**Que. 87** The domain of the function  $f(x) = \frac{1}{\sqrt{|x|-x}}$  is

1.  $[0, \infty)$
2.  $(-\infty, 0)$
3.  $[1, \infty)$
4.  $(-\infty, 0]$

Correct Option - 2

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**Que. 88** If  $|\vec{a}| = 3$ ,  $|\vec{b}| = 4$  and  $\vec{a} \cdot \vec{b} = 6$ , then find the value of  $|\vec{a} \times \vec{b}|$

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

Correct Option - 3

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**Que. 89** Calculate the area under the curve  $y = 2\sqrt{x}$  and included between the lines  $x = 0$ ,  $x = 4$

1.  $32/5$
2.  $32/3$
3.  $31/2$
4.  $3/2$

Correct Option - 2

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**Que. 90** If the lines  $\frac{x-2}{1} = \frac{y-4}{4} = \frac{z-6}{7}$  and  $\frac{x+1}{3} = \frac{y+3}{5} = \frac{z+5}{\lambda}$  are coplanar then find the value of  $\lambda$  ?

1. 7
2. 5
3. 4
4. 8

Correct Option - 1

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**Que. 91** If  $y = e^{x+e^{x+e^{x+\dots\infty}}}$ , then  $\frac{dy}{dx}$  is:

1.  $\frac{1+y}{y}$
2.  $\frac{y}{1+y}$
3.  $\frac{y}{1-y}$
4.  $\frac{1-y}{y}$

Correct Option - 3

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**Que. 92** The function  $f(x) = 1 + x^2 + x^4$  is strictly increasing for

1.  $x < 0$
2.  $x \geq 0$
3.  $x > 0$
4. None of these

Correct Option - 3

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**Que. 93** Find the values of  $k$  so the line  $\frac{x+4}{2} = \frac{4-y}{-2} = \frac{2z-4}{2k}$  and  $\frac{x+3}{-k} = \frac{y-3}{2} = \frac{z+1}{5}$  are at right angles.

1.  $4/3$
2.  $-4/3$
3.  $-2/3$
4.  $2/3$

Correct Option - 2

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**Que. 94** What is the solution of the differential equation  $x dy - y dx = 0$ ?

1.  $xy = c$
2.  $y = cx$

3.  $x + y = c$

4.  $x - y = c$

Correct Option - 2

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**Que. 95** What is  $\cot A + \operatorname{cosec} A$  equal to?

1.  $\tan\left(\frac{A}{2}\right)$

2.  $\cot\left(\frac{A}{2}\right)$

3.  $2 \tan\left(\frac{A}{2}\right)$

4.  $2 \cot\left(\frac{A}{2}\right)$

Correct Option - 2

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**Que. 96** Evaluate:  $\int \frac{x \cos^{-1} x}{\sqrt{1-x^2}} dx$

1.  $-x - \sqrt{1-x^2} \cos^{-1} x + C$

2.  $x + \sqrt{1-x^2} \cos^{-1} x + C$

3.  $x \cos^{-1} x + C$

4. None of these.

Correct Option - 1

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**Que. 97** If the points  $(k, 2k)$ ;  $(3k, 3k)$  and  $(3, 1)$  are collinear, then the value of  $k$  is

1.  $-\frac{2}{3}$

2.  $-\frac{1}{3}$

3.  $\frac{4}{3}$

4.  $-\frac{4}{3}$

Correct Option - 2

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**Que. 98** In what ratio is the line joining the points  $A(-1, 1)$  and  $B(5, 7)$  divided by the line  $x + y = 4$ ?

1.  $3 : 1$

2.  $1 : 2$

3.  $4 : 3$

4. None of these

Correct Option - 2

---

**Que. 99**  $\sin^2 6x - \sin^2 4x =$

1.  $\sin 2x \cos 10x$

2.  $\sin 2x \sin 8x$

3.  $\sin 2x \sin 10x$

4.  $\cos 2x \cos 10x$

Correct Option - 3

---

**Que. 100**

If  $\begin{bmatrix} 1 & -3 & 2 \\ 2 & -8 & 5 \\ 4 & 2 & \lambda \end{bmatrix}$  is not an invertible matrix, then what is the value of  $\lambda$  ?

1. -1
2. 0
3. 1
4. 2

Correct Option - 3

---

**Que. 101**

If A is a  $2 \times 3$  matrix and AB is a  $2 \times 5$  matrix, then B must be a

1.  $3 \times 5$  matrix
2.  $5 \times 3$  matrix
3.  $3 \times 2$  matrix
4.  $5 \times 4$  matrix

Correct Option - 1

---

**Que. 102**

If parabola  $y^2 = px$  passes through point  $(-2, 3)$ , then the length of latus rectum is:

1. 18
2. 9
3. 4.5
4. 3

Correct Option - 3

---

**Que. 103**

Find the solution set for  $x \in \mathbb{R}$  which satisfies both the inequation:  $2(3x - 4) - 2 < 4x - 2 \geq 2x - 4$  and  $5x - 3 < 3x + 1$ .

1.  $[-1, 2)$
2.  $[-\infty, 2)$
3.  $[-1, 4)$
4.  $[-\infty, 4)$

Correct Option - 1

---

**Que. 104**

Find the 4<sup>th</sup> term from the last in the expansion of  $(\frac{x}{3} - 3y)^7$ .

1.  $108x^3y^4$
2.  $105x^3y^5$
3.  $105x^3y^4$
4.  $105x^2y^5$

Correct Option - 3

---

**Que. 105**

If the total number of observations is 20,  $\sum x_i = 1000$  and  $\sum x_i^2 = 84000$ , then what is the variance of the distribution?

1. 1500
2. 1600
3. 1700

4. 1800

Correct Option - 3

---

**Que. 106** The domain of  $\sin^{-1} 4x$  is:

1.  $[0, 1]$
2.  $[-1, 1]$
3.  $\left[-\frac{1}{4}, \frac{1}{4}\right]$
4.  $[-3, 3]$

Correct Option - 3

---

**Que. 107** In  $\triangle ABC$ ,  $\angle B = 90^\circ$ ,  $AC = 169$  cm, and  $BC = 120$  cm. The length of  $AB$  (in cm) is

1. 109
2. 121
3. 119
4. 123

Correct Option - 3

---

**Que. 108** If mean of the observations 25, 29, 25, 32, 24 and  $x$  is 27, then median of the observations is

1. 32
2. 27
3. 26
4. 25

Correct Option - 3

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**Que. 109** Find the coordinates of the focus of the parabola  $x^2 = 6y$ .

1.  $\left(-\frac{3}{2}, 0\right)$
2.  $\left(0, \frac{3}{2}\right)$
3.  $\left(0, -\frac{3}{2}\right)$
4. None of these

Correct Option - 2

---

**Que. 110** Find the center and the radius of the circle  $x^2 + y^2 - 12x - 18y - 27 = 0$

1. (6, 9) and 10
2. (6, -9) and 12
3. (6, -9) and 10
4. (6, 9) and 12

Correct Option - 4