Smart, Structured & Syllabus-Aligned Content

RICE EDUCATION



PYQs

RAILWAY EXAMS

RRC Group D Level 1 2022

PREVIOUS YEAR QUESTIONS 2022

Q.1 What will come in the place of the question mark (?) in the following equation, if ÷ and + are interchanged and also × and - are interchanged?
28 ÷ 12 + 18 × 6 + 4 = ?
1. 529
2. 329
3. 229
4. 429
Answer : 2. 329
Q.2 Solung celebrated on September 1 every year is the most popular festival of Adi Tribe of which state?
1. Sikkim
2. Meghalaya
3. Arunachal Pradesh
4. Tripura
Answer : 3. Arunachal Pradesh
Q.3 Shalini's age is four times the sum of the ages of her two sons. Six years hence, her age will be double the sum of their ages. What is Shalini's present age?
1. 32 years
2. 40 years
3. 26 years
4. 36 years
Answer : 2. 40 years
Q.4 In a certain code language, DUCAT is written as 'GYHGA' and INDIA is written as 'LRIOH'. How will CHAIR be written in that language?
1. FLFOY
2. GMGPZ
3. FLFPY
4. GNGPZ
Answer : 3. FLFPY
Q.5 Under which Article of the Constitution of India is the President of India empowered to issue a "Proclamation of Emergency"?
1. Article 352
2. Article 370
3. Article 315
4. Article 356
Answer : 1. Article 352
Q.6 Study the given pie-chart and answer the following question: The given pie chart depicts the number of orders placed in four months. The total number of orders placed in the given four months together is 90. The number of orders placed in February is 24 more than the number of orders placed in November. What is the number of orders placed in February?
1. 44
2. 42
3. 40
4. 41

Answer : 2. 42

Q.7 What is the ratio of total trucks sold in 2012, 2013, 2014 and 2015 to the trucks sold in 2016, 2017, 2018 and 2020 by company LMN?

1. 55:56
2. 50:51
3. 56:55
4. 51:50

Answer : 4. 51:50

Q.8 A quadratic equation whose roots are 5/3 and -3/4 is:

1. $12x^2 - 11x - 15 = 0$
2. $6x^2 - 11x - 15 = 0$
3. $6x^2 + 11x - 15 = 0$
4. $12x^2 + 22x - 15 = 0$

Answer : 1. $12x^2 - 11x - 15 = 0$

Q.9 If $p \sin^2\beta + q \cos^2\beta = r$, then the value of $\cot^2\beta$ is:

1. $(r - q)/(r - p)$
2. $(r - p)/(r - q)$
3. $(p - r)/(r - q)$
4. $(r - q)/(p - r)$

Answer : 4. $(r - q)/(p - r)$

Q.10 A concave lens of focal length 30 cm forms an image of an object placed at 60 cm from it. The position and nature of the image formed will be:

1. -20 cm, virtual and erect
2. -20 cm, real and inverted
3. 20 cm, virtual and erect
4. 20 cm, real and inverted

Answer : 1. -20 cm, virtual and erect

Q.11 The heat generated H due to Joule's heating effect is directly proportional to:

1. square of the current
2. cube of the current
3. square root of the current
4. cube root of the current

Answer : 1. square of the current

Q.12 The value of $[(0.42)^2 + 36(0.05)^2] / [9(0.21)^2 + (0.45)^2]$ is:

1. 2/9
2. 5/18
3. 2/3
4. 4/9

Answer : 4. 4/9

Q.13 Aditya can complete a piece of work alone in 8 days and Bhagawan can complete the same piece of work alone in 12 days. They started the work together, but Aditya had to leave 3 days before the completion of the work. In how many days will the work complete?

1. 6 3/5 days
2. 6 4/5 days
3. 6 1/5 days
4. 6 days

Answer : 3. 6 1/5 days

Q.14 The correct increasing order of metallic character is:

1. Ge < Ga < Sc < Ca
2. Ge < As < Ga < Ca
3. Ge < Zn < Cu < As
4. Ga < Ge < Ca < Sc

Answer : 1. Ge < Ga < Sc < Ca

Q.15 How many such nurses are there who are from India but are NOT doctors?

1. 32
2. 24
3. 28
4. 42

Answer : 2. 24

Q.16 If x = (√2352 ÷ √1200) ÷ √0.04, then the value of (x + 1)/(x - 1) is:

1. 3/2
2. 4/3
3. 2/3
4. 3/4

Answer : 2. 4/3

Q.17 What is the name of the Light Combat Aircraft, which is designed and manufactured in India?

1. Pawan
2. Pushpak
3. Virat
4. Tejas

Answer : 4. Tejas

Q.18 Some plants produce a sticky substance in the stem which is used to prepare gum adhesives. What is the use of this gum to the plant?

1. It attracts insect pollinators.
2. It has medicinal value.
3. It helps in the transport of water.
4. It is a waste product of metabolism.

Answer : 4. It is a waste product of metabolism.

Q.19 Brahma Kamal is the state flower of which state?

1. Tripura
2. Himachal Pradesh
3. Sikkim
4. Uttarakhand

Answer : 4. Uttarakhand

Q.20 In the word 'CLIPBOARD', if each vowel is changed to the letter immediately following it and each consonant is changed to the letter immediately preceding it in the English alphabetical order, then how many vowels will be there in the group of letters thus formed?

1. Four
2. One
3. Three
4. Two

Answer : 4. Two

Q.21 The ratio of boys and girls in a school that has 480 students is 7 : 9. What will be the ratio of boys and girls if 3 more girls are admitted to the school?

1. 9:7
2. 7:9
3. 10:13
4. 13:10

Answer : 2. 7:9

Q.22 In the given figure, l || m and p || q. The value of x is:

1. 104°
2. 82°
3. 76°
4. 96°

Answer : 1. 104°

Q.23 When iron nails come in contact with copper sulphate solution their colour changes to:

1. brown
2. yellow
3. blue
4. red

Answer : 1. brown

Q.24 Study the given letter series and answer the question that follows:
(Left) K L A P A P S T U D A Q R T S X B Y (Right)
How many such consonants are there each of which is immediately preceded by a vowel and also immediately followed by a vowel?

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

Answer : 1. 2

Q.25 In which cell organelle, the first step of cellular respiration, which is the breakdown of glucose, a six-carbon molecule, into a three-carbon molecule called pyruvate takes place?

1. Mitochondria
2. Lysosomes
3. Cytoplasm
4. Nucleus

Answer : 3. Cytoplasm

Q.26 After fertilization, what will be the future of these parts of a flower - stamens, style, stigma, petal and sepal?

1. Persistent except sepal shed off in mostly plants
2. Stigma, style, stamen shed off except petal and sepal in some plants
3. They shed off except sepal which may be persistent in some plants
4. Stigma, style shed off except stamen, petal and sepal

Answer : 3. They shed off except sepal which may be persistent in some plants

Q.27 Which of the following numbers will replace the question mark (?) in the given series?
144 ? 196 225 256

1. 121
2. 169
3. 196
4. 179

Answer : 2. 169

Q.28 Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number.
7 : 56 :: 5 : 30 :: 9 : ?
1. 101
2. 81
3. 86
4. 90
Answer : 4. 90

Q.29 After two successive discounts, a tie with a list price of ₹120 is available at ₹90. If the second discount is 9%, what is the first discount percentage? [Give your answer correct to 2 places of decimal.]
1. 17.58%
2. 84.42%
3. 71.58%
4. 63.33%
Answer : 1. 17.58%

Q.30 If 100 : 250 :: 250 : x, then what is the value of x?
1. 250
2. 6.25
3. 25
4. 625
Answer : 4. 625

Q.31 In June 2022 researchers at the _____ have announced to have developed a robot to clean septic tanks without human intervention named HomoSEP.
1. Indian Institute of Technology (IIT), Guwahati
2. Indian Institute of Technology (IIT), Delhi
3. Indian Institute of Technology (IIT), Madras
4. Indian Institute of Technology (IIT), Bombay
Answer : 3. Indian Institute of Technology (IIT), Madras

Q.32 Select the number that will replace the question mark (?) in the given series.
64 343 36 125 16 ?
1. 9
2. 27
3. 8
4. 243
Answer : 2. 27

Q.33 The famous Majuli island is located on which river?
1. Godavari
2. Indus
3. Brahmaputra
4. Ganga
Answer : 3. Brahmaputra

Q.34 Which of the following acts as the deciding factor in the determination of the valency of an atom?
1. Number of electrons in the innermost shell
2. Number of electrons in the outermost shell
3. Number of electrons in the L shell

4. Number of electrons in the K shell

Answer : 2. Number of electrons in the outermost shell

Q.35 In a row of people, all facing north, Anil is 5th from the right end. Mona is 13th from the right end. Mona is exactly between Anil and Ritu. If Ritu is 5th from the left end of the row, how many people are there in the row?

1. 24
2. 21
3. 25
4. 22

Answer : 3. 25

Q.36 If an image formed after reflection from a mirror is virtual and highly diminished, then the position of the object and type of mirror is:

1. Between C and F and concave mirror
2. centre of curvature and concave mirror
3. infinity and concave mirror
4. infinity and convex mirror

Answer : 4. infinity and convex mirror

Q.37 Which Five-Year Plan is also called Gadgil Yojna, after the Deputy Chairman of the Planning Commission DR Gadgil?

1. Fourth
2. Third
3. Fifth
4. Sixth

Answer : 2. Third

Q.38 Which of the following is used to study the direction of rotation of a coil in a magnetic field in an electric motor?

1. Right hand thumb rule
2. Left hand thumb rule
3. Fleming's right hand rule
4. Fleming's left hand rule

Answer : 4. Fleming's left hand rule

Q.39 If the current flowing through a resistance of 5 ohm is 6 amp, then the current flowing through another resistance of 10 ohm connected in series to it is:

1. 0 amp
2. 12 amp
3. 3 amp
4. 6 amp

Answer : 4. 6 amp

Q.40 Find the single percentage discount equivalent to three successive discounts of 30%, 20% and 10%.

1. 49.6%
2. 46.9%
3. 50.4%
4. 60%

Answer : 1. 49.6%

Q.41 Find the average of 12, 15, 16, 17, 23 and 19.

1. 17

2. 15
3. 13
4. 18

Answer : 1. 17

Q.42 If a sum of ₹2,000 amounts to ₹2,360 in 3 years at a certain rate of simple interest per annum, then what will the same sum amount to in 5 years, if the rate of simple interest per annum remains the same?

1. ₹2,500
2. ₹2,600
3. ₹2,605
4. ₹2,650

Answer : 2. ₹2,600

Q.43 Under which Article of the Indian Constitution is there provision that "the Governor of a State shall at the expiration of every fifth year, constitute a Finance Commission to review the financial position of the Panchayats and to make recommendations to him"?

1. 243 X
2. 243 I
3. 243 Y
4. 243 H

Answer : 2. 243 I

Q.44 Which of the following terms will replace the question mark (?) in the given series to make it logically complete?

E12JZ, M16RH, U20ZP, C24HX, ?

1. P28KF
2. K29FP
3. P31FK
4. K28PF

Answer : 4. K28PF

Q.45 Refer to the given number, symbol series and answer the question that follows.

(Left) 5 3 4 2 5 7 5 % 9 8 & # 8 3 - 9 3 + 2 % 8 (Right)

How many such symbols are there which are immediately preceded by a symbol and also immediately followed by a symbol?

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

Answer : 3. 1

Q.46 Which is the second official language of Telangana?

1. English
2. Hindi
3. Tulu
4. Urdu

Answer : 4. Urdu

Q.47 Seven students, A, B, C, D, E, F and G, are sitting around a circular table facing the centre (but not necessarily in the same order). D is sitting second to the left of C. D is sitting to the immediate right of G. B is sitting third to the left of F. E is sitting to the immediate left of B. Who among the following is an immediate neighbour of B and D?

1. A
2. G
3. F
4. C

Answer : 1. A

Q.48 In which country did the Buddhist teachings of Nichiren Daishonin begin?

1. South Korea
2. Japan
3. Vietnam
4. Philippines

Answer : 2. Japan

Q.49 If 0.25a = 0.15b, then which of the options below gives the best approximation of the value of (b - a)/(b + a)?

1. 0.16
2. 1.6
3. 0.25
4. 6.6

Answer : 1. 0.16

Q.50 Find the missing value of weight (x) assigned if the weighted average of the data set provided below is 24.5.

Value of objects: 15, 20, 30, 40 | Assigned weights: 3, 2, x, 1

1. 12
2. 4
3. 5
4. 10

Answer : 2. 4

Q.51 Which of the following is NOT a goal of sustainable agriculture?

1. Minimising input of chemicals
2. Maximising economic value
3. Minimising labour and effort
4. Maximising environmental health

Answer : 3. Minimising labour and effort

Q.52 Statements:

All bridges are roads.

Some footpaths are roads.

Some footpaths are bricks.

Conclusions:

I. Some bridges are bricks.

II. Some roads are bridges.

III. Some footpaths are bridges.

1. Only conclusions I and II follow
2. Only conclusions II and III follow
3. Only conclusion II follows
4. Only conclusions I and III follow

Answer : 3. Only conclusion II follows

Q.53 In a certain code language, 'HOUSE' is written as 'FOSUC' and 'RAHUL' is written as 'PAUHJ'. How will 'ABOVE' be written in that language?

1. YBVOC
2. CDMXC
3. ZCMXC
4. XCNMB

Answer : 1. YBVOC

Q.54 A coin of diameter 10 cm is placed at a distance 3.5f from the pole of a concave mirror of focal length f. The linear magnification and the diameter of the image are:

1. 2/5 and 4 cm, respectively
2. 1/5 and 2 cm, respectively
3. 3/5 and 5 cm, respectively
4. 4/5 and 8 cm, respectively

Answer : 1. 2/5 and 4 cm, respectively

Q.55 The number of double bonds present in Benzene is:

1. three
2. two
3. four
4. six

Answer : 1. three

Q.56 Which set of statements is true about the river Ganga?

1. The Ganga rises in the Gangotri glacier near Gaumukh. Here, it is known as the Bhagirathi.
2. At Devprayag, the Bhagirathi meets the Alaknanda; hereafter, it is known as the Ganga.
3. The Alaknanda has its source in the Satopanth glacier above Kedarnath.
4. The Ganga enters the plains at Haridwar.

1. 1, 2 and 3
2. 1, 3 and 4
3. 2, 3 and 4
4. 1, 2 and 4

Answer : 4. 1, 2 and 4

Q.57 Select the option that is related to the fifth letter-cluster in the same way as the second letter-cluster is related to the first letter-cluster and the fourth letter-cluster is related to the third letter-cluster.

ZCD : XAB :: MDV : KBT :: RNT : ?

1. PLR
2. POT
3. QRU
4. PMR

Answer : 1. PLR

Q.58 Sonal was returning from her coaching class one evening just before sunset. She was waiting for the bus at a square, where she met her friend Shalini coming from the front. At that time, Shalini's shadow was directly falling on Sonal. In which direction was Shalini facing towards?

1. West
2. North
3. South
4. East

Answer : 4. East

Q.59 Aarush starts walking 9 m towards the north, then turns left and walks 17 m. He again turns left to walk 9 m. In which direction is he facing now? (All turns are 90 degree turns only)

1. East
2. West
3. North
4. South

Answer : 4. South

Q.60 The 6-digit number 473xy5 is divisible by 125. How many such 6-digit numbers are there?

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

Answer : 4. 2

Q.61 Who among the following won a gold at the IWF Junior World Championships in May 2022?

1. Anjali Patel
2. Mirabai Chanu
3. Archita Sherali
4. Harshada Sharad

Answer : 4. Harshada Sharad

Q.62 Carbon compounds that are linked by only a single bond are known as:

1. both saturated and unsaturated compounds
2. neither saturated nor unsaturated compounds
3. unsaturated compounds
4. saturated compounds

Answer : 4. saturated compounds

Q.63 What is non-tax revenue?

1. Any liabilities for the government
2. Recurring income earned by the government from sources other than taxes
3. Financial help in the form of grants, gifts from foreign governments and international organisations
4. Income earned by the government through the public sector units only

Answer : 2. Recurring income earned by the government from sources other than taxes

Q.64 Refer to the following letter, symbol series and answer the question.

L J - K Y % T U P

How many symbols are there which are immediately preceded by a letter and also immediately followed by a letter?

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

Answer : 1. 2

Q.65 An aqueous solution of sodium chloride is known as?

1. brine
2. Caustic soda
3. lime
4. Lime stone

Answer : 1. brine

Q.66 Rashmika had to travel 612 km in a car travelling at a certain speed. If she reached her destination in 9 hours, find the speed of the car.

1. 60 km/h
2. 65 km/h
3. 70 km/h
4. 68 km/h

Answer : 4. 68 km/h

Q.67 Which of the following is an example of double displacement reaction?

1. $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq) + Heat$
2. $CaO(s) + H_2O(l) \rightarrow Ca(OH)_2(aq) + Heat$
3. $2FeSO_4(s) \rightarrow Fe_2O_3(s) + SO_2(g) + SO_3(g)$
4. $Na_2SO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(s) + 2NaCl(s)$

Answer : 4. $Na_2SO_4(aq) + BaCl_2(aq) \rightarrow BaSO_4(s) + 2NaCl(s)$

Q.68 In a queue Rajul is 16th from the front end and Rekha is 4th from the rear end, and there are 5 people between them. How many people are there in the queue?

1. 18
2. 19
3. 21
4. 25

Answer : 4. 25

Q.69 Amongst six friends A, B, C, D, E and F, each has a different height. B is taller than E but shorter than F. Only one person is shorter than C. Only three people are taller than A. E is not the shortest. Who is the tallest among all the friends?

1. B
2. A
3. D
4. F

Answer : 4. F

Q.70 Statements:
All Locks are Blocks.
Some Blocks are Toys.
Some Toys are Dolls.
Conclusions:
(I) Some Locks are Toys.
(II) Some Blocks are Dolls.

1. Neither conclusion (I) nor (II) follows.
2. Only conclusion (I) follows.
3. Both conclusions (I) and (II) follow.
4. Only conclusion (II) follows.

Answer : 1. Neither conclusion (I) nor (II) follows.

Q.71 Statement: T < P < Q = N < M < S < I

1. N < Q
2. Q < S
3. P < M
4. P < N

Answer : 4. P < N

Q.72 _____ is a device used for varying the resistance of an electrical circuit.
1. Voltmeter
2. Galvanometer
3. Ammeter
4. Rheostat

Answer : 4. Rheostat

Q.73 Oxides of which of the following elements CANNOT be reduced by H_2, CO and C?
1. Pb
2. Ca
3. Fe
4. Cu

Answer : 2. Ca

Q.74 The Pradhan Mantri Shram Yogi Maandhan Yojana (PM-SYM) is aimed at providing:
1. protection for old age unorganized workers
2. loans for small farmers
3. protection for girls against dowry exploitation
4. education subsidies to students in professional education

Answer : 1. protection for old age unorganized workers

Q.75 Three numbers are in the ratio 3 : 5 : 7 and their LCM is 5250. What is the middle number?
1. 150
2. 250
3. 200
4. 350

Answer : 2. 250

Q.76 Who inaugurated the University Grants Commission (UGC)?
1. Dr. S Radhakrishnan
2. Dr. BR Ambedkar
3. Maulana Abul Kalam Azad
4. Pandit Jawaharlal Nehru

Answer : 3. Maulana Abul Kalam Azad

Q.77 As on 30th June 2022, how many Schedules are there in the Indian Constitution?
1. 22
2. 395
3. 8
4. 12

Answer : 4. 12

Q.78 Select the option in which the numbers are related in the same way as are the numbers of the following sets.
(289, 192, 95)
(375, 278, 181)
1. (421, 324, 225)
2. (421, 324, 227)
3. (420, 324, 227)
4. (421, 322, 227)

Answer : 2. (421, 324, 227)

Q.79 Which of the following ensures that the air passage does NOT collapse during respiration?
1. Mucus

2. Cilia
3. Diaphragm
4. Rings of cartilage

Answer : 4. Rings of cartilage

Q.80 The Nehru Rozgar Yojana (NRY) was launched in which Five-Year Plan in India?

1. Second
2. Fifth
3. Seventh
4. Ninth

Answer : 3. Seventh

Q.81 A certain number of people are sitting in a row, facing south. Neha sits fourth to the right of Shilu. Only four people sit between Neha and Kirti. Ram sits to the immediate right of Kirti. Only two persons sit between Kirti and Kunti. Alam sits third to the right of Kunti. If no other person is sitting in the row, what is the total number of persons seated?

1. 16
2. 14
3. 18
4. 12

Answer : 2. 14

Q.82 What is the minimum monthly assured pension for a person after attaining the age of 60 years in the Pradhan Mantri Shram Yogi Maan-Dhan Yojana? (As of July 2022)

1. ₹4,000
2. ₹1,500
3. ₹5,000
4. ₹3,000

Answer : 4. ₹3,000

Q.83 Five friends, Q, R, S, T, and U are sitting around a circular table facing the centre. U is the immediate neighbour of Q and S. T is second to the left of U and an immediate neighbour of both R and S. Where is R seated?

1. To the immediate right of T
2. Second to the left of U
3. Third to the left of U
4. Third to the left of S

Answer : 1. To the immediate right of T

Q.84 Statement: Prices of pulses have doubled in the last 15 days due to shortages artificially created by large-scale hoarding by a few traders.

Conclusions:

I. Hoarding is the only factor that leads to an increase in the price of pulses.

II. Fifteen days ago, there was no shortage in availability of pulses.

1. Only conclusion II follows
2. Neither conclusion I nor II follows
3. Both conclusions I and II follow
4. Only conclusion I follows

Answer : 2. Neither conclusion I nor II follows

Q.85 If 3 is added to each odd digit and 2 is subtracted from each even digit in the number 6452851, what will be difference between the largest and smallest digits thus formed?

1. 6

2. 4
3. 2
4. 8

Answer : 1. 6

Q.86 Many unicellular algae like Chlamydomonas live in water. How do they take in oxygen for respiration?

1. They have tiny openings (spiracles) to take in gases.
2. They live via anaerobic respiration.
3. They store oxygen evolved via photosynthesis in their vacuoles.
4. They absorb dissolved oxygen via diffusion like Amoeba.

Answer : 4. They absorb dissolved oxygen via diffusion like Amoeba.

Q.87 As per National Mineral Inventory data 2015, which state of India has the highest reserves of gold ore (primary)?

1. Karnataka
2. Andhra Pradesh
3. Bihar
4. Maharashtra

Answer : 3. Bihar

Q.88 If 2 is a root of the equation $x^2 - px + 6 = 0$ and the quadratic equation $x^2 + 2px + q = 0$ has equal roots, then the value of q is:

1. 25
2. 36
3. 12
4. 16

Answer : 1. 25

Q.89 Which of the following options is the closest approximate value which will come in place of the question mark (?) in the following equation?

$75.02 \times 16.89 - 13.47 + 749.98 \div 79.29 = ?$

1. 622
2. 795
3. 727
4. 532

Answer : 2. 795

Q.90 If one-third of a number is 6 more than the number itself, then find the number.

1. -5
2. -9
3. -7
4. -6

Answer : 2. -9

Q.91 In an electric motor, the direction of flow of current is reversed using:

1. a motor brush
2. armature winding
3. a split ring
4. a carbon brush

Answer : 3. a split ring

Q.92 The surface area of a 12 cm × 6 cm × 4 cm brick is:

1. 274 cm^2

2. 296 cm²
3. 288 cm²
4. 312 cm²

Answer : 3. 288 cm²

Q.93 What is the area of a regular hexagon the length of each of whose sides is 4 cm?

1. 24√3 cm²
2. 27√3 cm²
3. 25√3 cm²
4. 26√3 cm²

Answer : 1. 24√3 cm²

Q.94 Who was the captain of the Lucknow Super Giants in the fifteenth edition of the Indian Premier League (IPL)?

1. Kane Williamson
2. Rishabh Pant
3. KL Rahul
4. Hardik Pandya

Answer : 3. KL Rahul

Q.95 The measure of ∠OQR = 48°. Point V lies on OQ, VT || QR and S is a point in the interior of ∠OQR such that V, S and T are collinear and S lies in between V and T. P is also a point on OQ, such that P lies in between O and V, and m∠PST = 120°. What is the measure of the complement of ∠QPS?

1. 32°
2. 28°
3. 18°
4. 22°

Answer : 3. 18°

Q.96 The appearance of a stick at the interface when immersed in water is an example of:

1. displacement of light
2. reflection of light
3. refraction of light
4. transmission of light

Answer : 3. refraction of light

Q.97 Simplify the given expression:

4(3/2 x² - 4x + 3) - 1/2 (4x² + 8x - 18)

1. 4x² - 20x + 21
2. 4x² + 20x - 21
3. 4x² + 20x + 21
4. 4x² - 20x - 21

Answer : 1. 4x² - 20x + 21

Q.98 Which continent will suffer the most from global warming in terms of the number of people affected?

1. North America; Arctic ice melt
2. Antarctica; ocean warming
3. Asia; oceans will rise
4. Europe; urban flooding

Answer : 3. Asia; oceans will rise

Q.99 Simplify the given expression:

$(x^2 + xy + y^2)^2 - (x^2 - xy + y^2)^2$

1. $4xy(x^2 + y^2)$
2. $4xy(x^2 - y^2)$
3. $2xy(x^2 - y^2)$
4. $2xy(x^2 + y^2)$

Answer : 1. $4xy(x^2 + y^2)$

Q.100 Is there a visible difference between sperms which contain X chromosomes and sperms which contain Y chromosomes?

1. No, there is no difference in size but there is difference in motility
2. No, there is no difference in size or motility.
3. Yes, the Y-containing sperms are more motile.
4. Yes, the X-containing sperms are larger.

Answer : 2. No, there is no difference in size or motility.

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