| GOVT. OF NCT OF DELHI |  |
| :--- | :--- |
| Participant ID Delhi Subordinate Services Selection Board |  |
| Participant Name | FC-18, Institutional Area, Karkardooma, Delhi - 110092. |
| www.dsssb.delhigovt.nic.in |  |

## Section : Mental Ability

Q. 1 Find out which of the figure (a), (b), (c), (d) can be formed from the pieces given in fig. (X).

(X)

Ans

v 2 .

Q. 2 Four word pairs are given and three of them share a certain similarity. Choose the pair which is different from the other three.

Ans

1. Cricket: Googly

X 2. Tennis: Smash3. Hockey : Short corner
4. Shooting : Back stroke
Q. 3 Choose the alternative which is closely resembles the water-image of the given combination.

## VU2NM7G2

Ans
X.SDTMKSUV

x. 6DLUN6nA
× $\wedge$ USUNLGS
Q. 4 There are five friends. They are standing in row facing south. Komal is to the immediate right to Akanksha. Satvik is between Sandeep and Jay. Jay is between Komal and Satvik. Who among the following is third to the left of Satvik?
Ans

1. Sandeep
2. Komal

- 3. Akanksha
X4. Jay
Q. 5 A group of letters is given which are numbered $1,2,3,4,5,6$ and 7 . Below are given four alternatives containing combinations of these numbers. Select that combination of numbers so that letters arranged accordingly, form a meaningful word.

NTAODRO
1234567
Ans
X 1.2753164

- 2.2461357

X 3.2463517
X 4.2736154
Q. 6 Which two signs need to be interchanged to make the given equation correct?

| $88 \div 11+52 \times 15=4$ |  |
| :---: | :---: |
| Ans | -1. $\times$ and $=$ |
|  | \2. + and $\div$ |
|  | 13. $\times$ and - |
|  | < $4 . \div$ and - |

Q. 7 In the following diagram, which of the following group of employees represents those employees, who are not businessmen.
Q. 8 Select the option that is related to the third term in the same way as the second term is related to the first term.

267: 5 :: 549 :?
Ans
Х1.9
Х 2.14

- 3.11

X4.13
Q. 9 Select the term that will come next in the following series.

FHE, KMJ, PRO, UWT,?
Ans
Х1. 乙св
X2. 2 BA3. ZBY

X4.ZAB
Q. 10 Select the related word from the given alternatives.

Muslims : Quran :: Jews : ?
Ans

1. Torah

X 2. Ramayana
X 3. Talmud
4 4. Guru granth sahib
Q. 11 Find the wrong term in the series?

P, M, O, L, R, K
Ans

- 1.0
< ${ }_{2 \mathrm{P}}$
> ${ }_{3 . \mathrm{R}}$
Q. 12 One of the four figures (a), (b), (c) and (d) does not fit into the series. Find out the figure.
(a)

(b)

(c)

(d)

Ans
$>1$

$\times 2$

>3.

$\because 4$.

Q. 13 In the question below, there are three statements followed by two conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts and then decide which of the given conclusion logically follow(s) from the given statements.

Statements:
I. Some shockers are mockers.
II. All hockers are mockers.
III. Some mockers are dockers.

Conclusion:
I. Some shockers are hockers.
II. Some dockers are mockers.

Ans

- 1. Only conclusion II follows

Х 2. Neither conclusion I nor II follows
X 3. Either conclusion I or II follows
\$4. Only conclusion I follow
Q. 14 Find the missing figure in the series from the given option figures.

Question figure:

| $\boxtimes$ |  | $\boxed{ }$ |  |  |
| :--- | :--- | :---: | :---: | :---: |
|  | $\square$ |  | $\square \square$ | $?$ |

Ans
<
2. $\square$

$<3 .$| $\square$ |
| :---: |
| $\square$ |

$<4$

Q. 15 In a birthday party there were 84 chocolates inside a box. Child took 24 from it but put 22 back to the box. Then again he took 27 out but put 19 back into the box. Lastly, he took 15 Chocolates out from the box. So, how many Chocolates are there inside the box?
Ans
< 1.63

- 2.59

X 3.48
>4.55
Q. 16 Select a suitable figure from the four alternatives that would complete the figure matrix.


Ans

$>3$

Q. 17 Which one of the following figures represents the relationship among TV, Radio, and Cinema hall?

Ans
$\checkmark 1$.

$\times 2$

$\times 3$.

$\times 4$.

Q. 18 Select the related letter group from the given alternatives.

EV : IZ :: GT : ?
Ans

- $1 . K X$

X2.IU
X3.kQ
>4. LW
Q. 19 Choose the odd one from the given alternatives.

Ans
X1.UX:SZ
X 2.PS:NU
-3. QT:NV
Х4.HK:FM
Q. 20 A statement is given followed by four assumptions, (a), (b), (c) and (d). You have to consider the statement to be true, even if it seems to be variance from commonly known facts. You are to decide which of the given assumptions can definitely be drawn from the given statement. Indicate your answer.

Statement:
Television has a strong influence in the young children's development.
Ans

1. While developing TV programmes, educational, developmental and moral aspects of
children should be take care of
2. Young Children should not allowed to watch TV programmes
(3. Television affects the academic progress of your children
(4. Children watching TV should be controlled by the parents

## Section : General Awareness

Q. 1 In which year was the Pradhan Mantri Gramodaya Yojana (PMGY) launched?

Ans $\times 1.2002$
Х 2.1999
Х 3.2004

- 4.2000
Q. 2 'Burrakatha' is regional music of which of the following Indian States?

Ans

1. Tamil Nadu
2. Kerala

- 3. Andhra Pradesh

X 4. Odisha

## Question ID : 54592769308

## Q. 3 Which article of Indian constitution is about Prohibition of employment of children in factories?

Ans
X 1. Article 21 A
X 2 . Article 26
> 3. Article 22
4. Article 24

## Q. 4 When was Namami Gange Programme approved?

Ans $\begin{aligned} & \text { 1. August } 2012\end{aligned}$
Х 2. January 2013

- 3. June 2014

Х 4. October 2017

## Q. 5 Who was appointed as the Subhedar of Awadh in 1722?

Ans
(1. Murshid Quli Khan
(2. Asaf Jah
3. Saadat Khan

X 4. Farrukh Siyar

## Q. 6 Bhaichung Bhutia is associated with which of the following sport?

Ans
Х 1. Basketball
(2. Cricket

X 3. Hockey
4. Football
Q. 7 The National song of India, 'Vande Matram' has been taken from which book?

Ans $\quad$ 1. Rajani2. Anand Math
3. Bankim Rachnavali
(4. Neel darpan
Q. 8 Which national movement is also known as Vandematram Movement?

Ans $\quad$ 1. Non-Cooperation Movement

- 2. Swadeshi Movement

Х 3. Home Rule Movement
X 4. Champaran Satyagraha
Q. 9 Ashoka was ruler of which of the following dynasty?

Ans
Х 1. Gupta Empire
X 2. Kushana Dynasty
3. Chalukya Dynasty

- 4. Mauryan Empire
Q. 10 Which color is observed when presence of protein in a food item is tested using copper sulphate and caustic soda?
Ans
Х 1 . Green
X 2. Brown
>3. Pink
- 4. Violet
Q. 11 Where is Bahai Temple situated?

Ans
X 1. Mumbai
< 2. Chennai
$\checkmark$
3. New Delhi
<4. Kolkata
Q. 12 Who among the following did not receive the Bharat Ratna Award 2019?

Ans
Х 1. Shri Pranab Mukherjee
Х 2. Shri Nanaji Deshmukh
3. Dr. Bhupen Hazarika
4. Shri Anilkumar Manibhai Naik
Q. 13 Which of the following is a type of protecting tissue in an animal body?

Ans

1. Muscular tissue

- 2. Epithelial tissues

3 3. Connective tissue
X4. Nervous tissue
Q. 14 What was the Constitution (Twenty-first Amendment) Act, 1967 all about?

Ans
X 1. Formation of Sikkim as a State within the Indian Union

- 2. Inclusion of Sindhi as an Official Language

3. Formation of State of Nagaland, with special protection under Article 371A
4. Inclusion of Konkani, Manipuri and Nepali as Official Languages
Q. 15 Yamini Krishnamurthy is associated with which of the following fields?

Ans

1. Classical Dance

1 2 . Sports
Х 3. Science
<4. Politics
Q. 16 Who is the present Chief Minister of Goa?

Ans

2. Pramod Sawant

X 3. Laxmikant Parsekar
X4. Digambar Kamat
Q. 17 Where is the RBI museum situated in India?

Ans

(2. Bhopal

入3. Delhi
4. Bhubaneswar
Q. 18 Bachendri Pal received which of the following Award in 2019?

Ans
Х 1. Padma Shree
2. Arjuna Award

X 3. Padma Vibhushan

- 4. Padma Bhushan
Q. 19 With the opening of Suez canal how much distance between India and Europe is reduced?

Ans
入 1.5000 km

- 2.7000 km
> $3.10,000 \mathrm{~km}$
X 4.9000 km
Q. 20 Which water highway is present between Sadiya and Dhubri?

Ans

- 1. NW-2
> 2 . NW-4
(3.NW-1

X4.nW-3

## Section : Arithmetic Ability

Q. 1 A sum of money in 3 years becomes Rs. 1344 and in 7 years it becomes Rs.1536. What is the principle when simple rate of interest is to be charged?(in Rs.)
Ans

Q. 2 A certain number is added to each of a pair of numbers which are in the ratio $4: 5$. The sum of the resulting numbers is 39 and their ratio (taken in the same order as mentioned above)
is $6: 7$. What is the number added?
Ans

- 1.6
>2.7
X 3.8
<4.9
Q. 3 A is thrice as good a workman as B. C alone takes 48 days to paint a house. All three A, B and $C$ working together take 16 days to paint the house. It will take how many days for $A$ alone to paint the house?
Ans

1. 96
2. 64

- 3.32
Х 4.72
Q. 4 A train, running at a speed of 36 kmph , takes 60 seconds to cross an electric pole. How much time it will take to cross a platform of length 250 meter?
Ans
Х 1.75 second

2. 85 second

X 3.10 second
Х 4.80 second
Q. 510 years ago the average age of all the 25 teachers of the Girls College was 45 years. 4 years ago, the Principal retired at the age of 60 years and after one year, a new Principal, whose age was 54 years, was recruited. What is the present average age of all the teachers if the Principal is also considered as a teacher?
Ans
X 1.56 years
$\times 2.49 \frac{1}{2}$ years
3. $54 \frac{18}{25}$ years4. 55 years
Q. 6 Study the following graph carefully and answer the question that follow.

Demand and Production of Cars in different Companies in a year


What is the ratio of the companies having more demand than production to those having more production than demand?

Ans
<1.1:4
X
2. $2: 1$
X
3. $2: 3$
4. $1: 3$
Q. 7 Study the following table carefully and answer the given question.

| Year | Item Of Expenditure(In Rs.) |  |  |
| :---: | :---: | :---: | :---: |
|  | Salary | Food | Education |
| 2008 | 7000 | 1200 | 500 |
| 2009 | 9000 | 1250 | 700 |
| 2010 | 10000 | 1400 | 900 |
| 2011 | 15000 | 2000 | 1000 |

Based on the given Table, Percentage salary increase during the period 2008-2010 is:
Ans
X 1. $28 \frac{6}{7}$ percent

- 2. $42 \frac{6}{7}$ percent
< 3.25 percent
\$4.30 percent
Q. 8 If $(p+q):(q+r):(r+p)=5: 6: 7$ and $p+q+r=18$, find the value of $p: q: r$.

Ans $\quad$ 1.4:5:6
<2.5:6:7

- $3.9: 6: 12$
<4.2:3:4
$\sqrt{9604} \times \sqrt{1369} \times \sqrt{529} \div \sqrt{2401}=?$
Ans
- 1.1702

Х 2.1865
< 3.1576
Х 4.1682
Q. 10 Two trains of lengths 80 m and 100 m are moving in the same direction with their speeds in the ratio of $3: 2$ respectively. If they cross a 20 m long bridge, then find the ratio of the time taken by first train to the time taken by second train to cross the bridge?
Ans

1. $9: 5$

- $2.5: 9$
X3.6:5
X4.5:6
Q. 11 The average age of 25 students and the principal is 15 years. When the principal's age is excluded, the average age decreases by 1 year. What is the age of principal?
Ans
Х 1. Data inadequate
X 2.38 years
- 3.40 years

X 4.39 years
Q. 12 Simplify the following expression.

$$
\frac{3}{5} \text { of }\left\{\left(48 \div \overline{36 \div 9} \times \frac{1}{6}\right)+\frac{1}{3}\right\}=?
$$

Ans
<1. $\frac{1}{2}$
2. $\frac{7}{5}$
$\times 3 . \frac{2}{5}$
$\times 4 \frac{3}{5}$
Q. 13 Given below is a bar graph, showing the percentage profit of company A from 2010 to 2014.

Study the graph carefully and answer the question.


If the investment of company $A$ in each year was Rs. 2.4 crore, find the average profit per year for the company for the given period.
Ans
X1.0.5 Crore

- 2. 1.176 crore

X 3. 0.49 crore
Х 4.1 .165 crore
Q. 1438514 is completely divisible by which of the following?

Ans
Х 1.12
> 2.21
Х 3.14
4. 14 and 21 both
Q. 15 The price of an article becomes Rs. 63 after a decrease of 30 percent. Find the original price. (in Rs.)
Ans
Х 1.96
Х 2.80

- 3.90
>4.100
Q. 16 In the equilateral $\triangle A B C$, the base $B C$ is trisected at $D$ and $E$. The line through $D$, Parallel to $A B$, meets $A C$ at $F$ and the line through $E$ parallel to $A C$ meets $A B$ at $G$. If $E G$ and $D F$ intersect at H , then what is the ratio of the sum of the area of parallelogram AGHF and the area of the $\triangle$ DHE to the area of the $\triangle \mathrm{ABC}$ ?
Ans
$\times 1 . \frac{1}{4}$
<2. $\frac{1}{6}$
-3. $\frac{1}{3}$
$x$ 4. $\frac{1}{2}$
Q. 17 A man buys an article for 10 percent less than its value and sells it for 10 percent more than its value. His profit or loss percent is:
Ans
X1.1 percent

2. 22.2 percent

Х 3.20 percent
Х 4.21 percent
Q.18 A discount of 5.5 percent is given to the customer on marked price of an article. A man bought the article for Rs. 141.75. The marked price of article is:
Ans
X ${ }_{2}$ Rs 145
X 3.Rs 146

- 4 . Rs 150
Q. 19 A gives 39 percent of his salary to B. From this amount, B spends 19 percent on his food items and 15 percent on repair of furniture and the remaining Rs. 21879 puts in the saving account. What is the half of the salary of A?
Ans
- 1. Rs 42500

X 2 . Rs 84000
< 3.Rs 41500
<4.Rs 64000
Q. 20 Two pipes $A$ and $B$ can fill a cistern in 6 and 8 minutes respectively. If $A$ starts the work and they be turned on alternatively for one minute each, how long will it take to fill the cistern?
Ans
>1. $3 \frac{3}{7}$ minutes
2. $6 \frac{3}{4}$ minutes

X 3.6 minutes
<4. $6 \frac{6}{7}$ minutes
Q. 1 Select the synonym of the given word.

Assured
Ans

1. Guaranteed
< 2. Confidant
< 3. Involved
\$ 4. Provoked
Q. 2 Select the word which means the same as the group of words given.

One who specialises in the treatment of babies and children.
Ans

1. Paediatrician
Х 2. Oncologist
X 3. Podiatrist
Х 4. Gynaecologist
Q. 3 Out of the four words given below, find the word which is not correctly spelt?

Ans
Х 1. Guarantee
< 2. Believe3. Occurrence
4. Occassion
Q. 4 Find the correctly spelt word.

Ans
Х 1. Millenium
2. Millennium
> 3. Mellinium
(4. Mellinneium
Q. 5 Select the most appropriate option to substitute the underlined segment in the given sentence. If there is no need to substitute it, No substitution required.

Not knowing the language and having no acquaintances in the city, he found it hard getting work.
Ans

1. hard in getting work.
2. No substitution required
3. hard to get work.
4. hard to getting to work.
Q. 6 Four alternatives are given for the Idiom/Phrase underlined. Choose the alternative which best expresses the meaning of Idiom/Phrase.

Despite working very hard, Edward remained a cog in the wheel and his absence from the crucial group project didn't have much impact on the team.
Ans
Х 2. holding an important job title
Х 3. to shirk work \& responsibility
《4. to be a liability
Q. 7 Out of the four sentences given below, which is the correct indirect speech of the sentence?
"Please give me something to eat. I am hungry" the old man said to them.
Ans

1. The old man ordered them to give him something to eat and said that they were hungry.

X 2. The old man threatened them to give him something to eat and said that he was hungry.
3. The old man commanded them to give him something to eat and said that they were hungry.

- 4. The old man requested them to give him something to eat and said that he was
hungry.
Q. 8 Select the most appropriate option to substitute the underlined segment in the given sentence.

Bindu is strongly desiring to buy a car, so that she can travel fast and reach the office in time.

Ans

1. strongly desires
2. is desiring strongly

- 3. was strongly desiring
(4. desired strongly
Q. 9 Select the antonym of the given word.

Dismal
Ans

- 1. Pleasant

2. Erratic
< 3. Modern
X 4. Random
Q. 10 Identify the incorrect sentence or sentences.
a. Leadership is primarily about being people-centric.
b. It's about treating people as equals and with respect.
c. It's equally important to find balance between delegation and abdication.
d. Mentoring and coaching should be done not by sermons but working in real situations.

Ans
<1. Only a

- 2. c and d
(3. Only d

74. a and b
Q. 11 Rearrange the following sentence in their correct order to form a meaningful paragraph.

Their nurses fed them
$P$ - between meals, and at all times
Q - so they grew ever so much faster
R - than most babies do
Ans

- 1. PQR2. $R Q P$

X 3. QRP
>4.PRQ
Q. 12 Select the most appropriate option to fill in the blank.

The few articles of furniture $\qquad$ a narrow bed, a chair, and a desk in one corner.

Ans
(1.consists

X 2. including
3. included
4. consisting
Q. 13 Four alternatives are given for the Idiom/Phrase underlined. Choose the alternative which best expresses the meaning of Idiom/Phrase.

In spite of the manager's persistent efforts to reconcile the existing situation, all he received was a cold shoulder from the management's side.
Ans

- 1. pay no attention to

X 2. a warm welcome
3. firmly acknowledge
4. be resistant to
Q. 14 Select the most appropriate option to fill in the blank.

She's not speaking to him and he's not talking to her and $\qquad$ haven't spoken for years.
Ans

1. they
< 2 it
X3.she
X4. he
Q. 15 In the following question, there are six parts marked S1, S6, P, Q, R and S. The position of S1 and S 6 are fixed. Some parts of the sentence have been jumbled up. Rearrange these parts and choose the proper sequence from the given options.

## S1. Old age are two words that people are scared to utter, let alone living it.

P. But, this couldn't be farther from the truth in today's time.
Q. Its perception is such that it worries people.
R. Recently, 71-year-old Sarah Simpsons was seen cycling in a resort in Goa where she was
holidaying.
S. Greying hair is equated to slowing down.

S6. Whether it is true or not, one could gauge her fitness levels by watching her being at ease on the bicycle.
Ans
X1.RPQS
< 2.RPSQ
X 3. QSRP

- 4. QSPR


## Comprehension:

Read the following passage carefully and answer the following questions.
Air pollution has jumped to number five spot amongst the top killers in India. Releasing Indiaspecific data, the Global Burden of Disease (GBD) warned that outdoor air pollution caused $6,27,000$ deaths and 17.7 million healthy years of life in 2010.

Worldwide, outdoor air pollution caused 3.2 million premature deaths and over 74 million years of healthy life in 2010. A substantial rise in cardiovascular diseases, strokes and chronic obstructive pulmonary diseases in India in 2010 are directly attributed to the rising levels of particulate-matter pollution. Two-thirds of the rising disease graphs worldwide are found in South Asia.

Dr Vinod Raina, heading the oncology wing at AIIMS, confirmed that 'we are getting 10 lakh new cancer cases every year, out of which approximately one lakh are lung cancer cases. We still have to quantify how many of these lung cancer cases are pollution-related'.

Dr Aaron Cohen, principal scientist, Health Effects Institute, Boston, and chairperson of the 4Jr Pollution Group at Institute for Health Metrics and Evaluation for Global Burden of Disease, pointed out that a study of lung cancer amongst non-smokers had shown a 60 per cent increase caused by air pollution.

Prof. S K Chhabra, heading the department of cardiorespiratory physiology at the Vallabhbhai Patel Chest Institute, warned against the risk from new generation pollutants, especially ozone that is currently responsible for a four per cent increase in mortality rates. 'Ozone has become a key ingredient of urban smog,' said Prof. Chhabra.

Prof. Randeep Guleria, head of the pulmonary unit at AIIMS, highlighted how indoor air pollution had emerged as another major killer amongst women using biomass for their cooking requirements. 'Women in the Gujjar community suffer high incidence of, cancer caused by indoor air pollution,' Prof. Guleria explained.

Allergies, respiratory diseases, bronchitis, asthma, etc. were all caused by air pollution. The harmful fumes from vehicles are a major cause of air pollution.

The India-related data was calculated from the largest global database ever assembled using India-specific levels of baseline mortality and incidence of five leading causes of death in India and was released at a workshop organised by ICMR and CSE.

The 2010, GBD was produced by a rigorous scientific process involving 150 global experts led by the Institute of Health Metrics and Evaluation along with WHO and Harvard University.

SubQuestion No: 16
Q. 16 Why is ozone a dangerous new-generation pollutant?
A. It is a major constituent of urban smog.
B. It is responsible for a four per cent Increase is mortality rates.
C. it is highly toxic.

Ans
4. Only C

## Comprehension:

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SubQuestion No: 17

## Q. 17 The Global Burden of Disease warned that:

Ans 1. Healthy people had become unhealthy
2. People had increased the use of fossil fuels

X 3. Obesity was a killer
4. Many healthy years of life were lost due to air pollution

## Comprehension:

Read the following passage carefully and answer the following questions.
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The 2010, GBD was produced by a rigorous scientific process involving 150 global experts led by the Institute of Health Metrics and Evaluation along with WHO and Harvard University.

SubQuestion No : 18

## Q. 18 Which of the following statements is false according to the passage?

Ans $\quad$ 1. The 2010 GBD was produced by a rigorous scientific process involving 150 global experts
2. The head of oncology department confirmed getting thousands of new cases of lung cancer every year
3. Air pollution has jumped to number five spot amongst the top killers in India
4. Two-thirds of the rising disease graphs worldwide are found in South Asia

Question ID : 54592769367

## Comprehension:

Read the following passage carefully and answer the following questions.
Air pollution has jumped to number five spot amongst the top killers in India. Releasing Indiaspecific data, the Global Burden of Disease (GBD) warned that outdoor air pollution caused $6,27,000$ deaths and 17.7 million healthy years of life in 2010.

Worldwide, outdoor air pollution caused 3.2 million premature deaths and over 74 million years of healthy life in 2010. A substantial rise in cardiovascular diseases, strokes and chronic obstructive pulmonary diseases in India in 2010 are directly attributed to the rising levels of particulate-matter pollution. Two-thirds of the rising disease graphs worldwide are found in South Asia.

Dr Vinod Raina, heading the oncology wing at AIIMS, confirmed that 'we are getting 10 lakh new cancer cases every year, out of which approximately one lakh are lung cancer cases. We still have to quantify how many of these lung cancer cases are pollution-related'.

Dr Aaron Cohen, principal scientist, Health Effects Institute, Boston, and chairperson of the 4Jr Pollution Group at Institute for Health Metrics and Evaluation for Global Burden of Disease, pointed out that a study of lung cancer amongst non-smokers had shown a 60 per cent increase caused by air pollution.

Prof. S K Chhabra, heading the department of cardiorespiratory physiology at the Vallabhbhai Patel Chest Institute, warned against the risk from new generation pollutants, especially ozone that is currently responsible for a four per cent increase in mortality rates. 'Ozone has become a key ingredient of urban smog,' said Prof. Chhabra.

Prof. Randeep Guleria, head of the pulmonary unit at AIIMS, highlighted how indoor air pollution had emerged as another major killer amongst women using biomass for their
cooking requirements. 'Women in the Gujjar community suffer high incidence of, cancer caused by indoor air pollution,' Prof. Guleria explained.

Allergies, respiratory diseases, bronchitis, asthma, etc. were all caused by air pollution. The harmful fumes from vehicles are a major cause of air pollution.

The India-related data was calculated from the largest global database ever assembled using India-specific levels of baseline mortality and incidence of five leading causes of death in India and was released at a workshop organised by ICMR and CSE.

The 2010, GBD was produced by a rigorous scientific process involving 150 global experts led by the Institute of Health Metrics and Evaluation along with WHO and Harvard University.

SubQuestion No : 19
Q. 19 What are the consequences of rising levels of particulate matter pollution?
A. Rise In cardiovascular diseases
B. Rise in strokes
C. Rise in obesity

Ans
X 1 . Only C
X 2 . Only A
X 3. Only B
4. Only A and B

## Comprehension:

Read the following passage carefully and answer the following questions.
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SubQuestion No : 20
Q. 20 Which of the following sentence/s is true about women In the Gujjar community?
A. They use biomass for cooking.
B. They are highly prone to cancer because of indoor air pollution.
C. They are concerned about the pollution caused by biomass.

Ans
X 1. Only B
X 2. Only C
X 3. Only A
$\checkmark$
4. Only A and B

## Section: General Hindi

Q. 1 लोकोक्ति 'तेते पाँव पसारिए, जेती लंबी सौर' का अर्थ है:

Ans

1. चादर के अनुसार ही पैर फैलाना
2. शुक्र है कि जान बच गई
3. जिसको मालिक चाहे वह बुरा भी अच्छा
4. अपनी औकात देखकर ही खर्च करो

## Q. 2 वर्षों बाद उसका प्रवासी पति लौटा है। इस वाक्य में विशेषण क्या है?

Ans
v. प्रवासी
2. वर्षों

X3. पति
4. लौटा है

## Q. 3 'परतन्त्र' का पर्यायवाची शब्द है:

Ans 1.पराधीन
X 2. तत्काल
3. विनय
4. पग
Q. 4 किस वाक्य में विराम चिन्हों का प्रयोग सही किया गया है?

Ans

1. राजा-दशरथ, के चार पुत्र थे।
2. दोनों साथ-साथ खेलते, खाते,पढ़ते और टहलते है।
3. राधिका बहुत खुश हुई "वह माँ बननेवाली थी न"
4. दोनों साथ साथ खेलते, खाते,पढ़ते, और टहलते है।
Q. 5 दिए गए वाक्य के लिए एक शब्द का चयन कीजिए।
'वह नाटक जिसमें गीत अधिक हों'
Ans
5. गीतरूपक
6. गरिष्ठ
7. गीतछवि
8. चाटुकार
Q. 6 वाक्य प्रकार का चयन कीजिए।
'अल्प ज्ञानी व्यक्ति बुद्धिमान की कद्र करना क्या जाने'।
Ans
9. संयुक्त वाक्य
10. मिश्र वाक्य
11. विधिवाचक वाक्य
12. सरल वाक्य

## Q. 7 असंगत (बेमेल शब्द) का चयन कीजिए।

Ans 1. रूपहले
2. सुनहरे
3. चमकीले
4. कनक
Q. 8 'मात्रानंद' में कौन-सी संधि है?

Ans

1. यण संधि
2. दीर्घ संधि
3. अयादि संधि
4. विसर्ग संधि
Q. 9 शब्द-युग्म के सही अर्थ-भेद का चयन कीजिए।
'मानक-मानिक'
Ans
5. लाल रंग का रत्न-स्तर
6. मूल्य- मुरली
7. कीमत- मूर्ख
8. स्तर- लाल रंग का रत्न
Q. 10 मुहावरा 'लहू पीकर रह जाना' का अर्थ है:

Ans

1. बर्बाद करना
2. रूढिवादी होना
3. होश-हवास न होना
Q. 11 वाक्य प्रकार का चयन कीजिए।
'अल्का गा रही थी।'
Ans
4. आसन्न भविष्यत
5. सामान्य वर्तमान
6. अपूर्ण भूत
7. सामान्य भूत
Q. 12 किस चिन्ह का प्रयोग आवेदन-पत्र या प्रार्थना पत्र में 'विषय' एवं 'द्वारा' के बाद होता है?

Ans

1. लाघव चिन्ह
2. प्रश्नवाचक चिन्ह
3. विवरण चिन्ह
4. अवतरण चिन्ह
Q. 13 विदेशज शब्द का चयन कीजिए।

Ans $\begin{aligned} & \text { 1. ठुमरी }\end{aligned}$
2. कम्पनी
3. काया
4. औजार
Q. 14 'इतिश्री' का विलोम शब्द है:

Ans

1. अन्त
2. वन्दना

- ${ }^{3}$. उधर
-4. श्री गणेश
Q. 15 निम्नलिखित में से पुल्लिंग शब्द का चयन कीजिए।

Ans

1. दाल
2. रसा
3. अदरक
(4. मिर्च

## Comprehension:

दिए गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।
हमारा देश कृषि प्रधान देश है। यहाँ की अस्सी प्रतिशत जनसंख्या केवल गाँवों में निवास करती है। इतनी बड़ी जनसंख्या का भाग शिक्षा और ज्ञान के क्षेत्र में बहुत पिछड़ा हुआ है। इस पिछड़ेपन के कारण एक नहीं अनेक हैं। ये एक समान नहीं हैं, अपितु विविध है। कहीं तो भूमि अन्नोत्पादक योग्य नहीं है और कहीं ऊबड़ खाबड़ एवं बहुत कठोर है। इस प्रकार ग्रामीणों की दुर्शा और कष्टपूर्ण स्थिति को ध्यान में रखकर ही 'जवाहर रोजगार योजना' को अप्रैल 1989 को तत्कालीन युवा प्रधानमंत्री श्री राजीव गाँधी ने लोक सभा और राज्य सभा दोनों सदनों में इसे लागू करने के लिए घोषित कर दिया था।
श्री गाँधी का यही मुख्य विचार रहा कि इस योजना का लाभ उन ग्रामीणों को प्राप्त होगा, जो हर प्रकार से शोषित, पीड़ित, सताए गए दीन दुखी और अभावग्रस्त जीवन जीने के लिए मजबूर किए जा रहे हैं। श्री गाँधी ने इस योजना को लागू करने के सन्दर्भ में यह घोषणा की थी 'इस योजना को सफलतापूर्वक कार्यान्वित करने के लिए 2100 करोड़ रूपये की धनराशि दी जायेगी। प्रत्येक गाँव का पंचायत तक पहुँचना ही मुख्य लक्ष्य है। भारत के ग्रामवासियों के समस्त अभावों को दूर करना इस योजना का सर्वप्रधान लक्ष्य और प्रयास होगा। निर्धनता और महामारी को दूर करने का महत्वपूर्ण प्रयास यह योजना करेगी। इस योजना के अन्तर्गत रोजगारों की प्राप्ति के भाग का 30 प्रतिशत केवल महिलाओं के लिए आरक्षित होगा। इस योजना के अन्तर्गत यह भी एक प्रावधान है कि प्रत्येक निर्धन ग्रामीण परिवार के एक सदस्य को उसके निवास स्थान के निकट एक वर्ष में 50 से 100 दिन तक रोजगार दिया जायेगा। अपने गाँवों में इस योजना को कार्यान्वित करने के लिए तीन से चार हजार व्यक्तियों वाली प्रत्येक पंचायत को प्रतिवर्ष अस्सी हजार से एक लाख रूपये की धनराशि मिलेगी बशर्ते कि उसका गाँव दूर स्थित एक पिछड़े हुए क्षेत्र में हो ।इस योजना की अपेक्षित धनराधि का अस्सी प्रतिशत केन्द्र सरकार तथा 20 प्रतिशत राज्य सरकारें वहन करेंगी।

SubQuestion No : 16

## Q. 16 उपर्युक्त गद्यांश का उचित शीर्षक है:

Ans

1. महिलाओं को आरक्षण
2. जवाहर रोजगार योजना
3. कृषि देश की प्रधानता
4. प्रधानमंत्री रोजगार योजना

## Comprehension:

दिए गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।
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SubQuestion No: 17
Q. 17 'जवाहर रोजगार योजना' के संदर्भ में कौन-सा कथन गलत है?

Ans 1. भारत के ग्रामवासियों के समस्त अभावों को दूर करना इस योजना का सर्वप्रधान लक्ष्य और प्रयास होगा।
2. प्रत्येक निर्धन ग्रामीण परिवार के एक सदस्य को उसके निवास स्थान के निकट तीन वर्ष में 50 से 100 दिन तक रोजगार दिया जायेगा।
3. इस योजना के अन्तर्गत रोजगारों की प्राप्ति के भाग का 30 प्रतिशत केवल महिलाओं के लिए आरक्षित होगा।
4. भारत की अस्सी प्रतिशत जनसंख्या केवल गाँवों में निवास करती है।

## Comprehension:

दिए गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।
हमारा देश कृषि प्रधान देश है। यहाँ की अस्सी प्रतिशत जनसंख्या केवल गाँवों में निवास करती है। इतनी बड़ी जनसंख्या का भाग शिक्षा और ज्ञान के क्षेत्र में बहुत पिछड़ा हुआ है। इस पिछड़ेपन के कारण एक नहीं अनेक हैं। ये एक समान नहीं हैं, अपितु विविध है। कहीं तो भूमि अन्नोत्पादक योग्य नहीं है और कहीं ऊबड़ खाबड़ एवं बहुत कठोर है। इस प्रकार ग्रामीणों की दुर्शा और कष्टपूर्ण स्थिति को ध्यान में रखकर ही 'जवाहर रोजगार योजना' को अप्रैल 1989 को तत्कालीन युवा प्रधानमंत्री श्री राजीव गाँधी ने लोक सभा और राज्य सभा दोनों सदनों में इसे लागू करने के लिए घोषित कर दिया था।
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SubQuestion No : 18
Q. 18 प्रधानमंत्री श्री राजीव गाँधी ने 'जवाहर रोजगार योजना' को सफलतापूर्वक कार्यान्वित करने के लिए कितने करोड़ रूपये की धनराशि देने का प्रावधान किया था?

Ans 1.1100 करोड़ रूपये
2. 2200 करोड़ रूपये
3. 2100 करोड़ रूपये
4. 3100 करोड़ रूपये

## Comprehension:

दिए गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।
हमारा देश कृषि प्रधान देश है। यहाँ की अस्सी प्रतिशत जनसंख्या केवल गाँवों में निवास करती है। इतनी बड़ी जनसंख्या का भाग शिक्षा और ज्ञान के क्षेत्र में बहुत पिछड़ा हुआ है। इस पिछड़ेपन के कारण एक नहीं अनेक हैं। ये एक समान नहीं हैं, अपितु विविध है। कहीं तो भूमि अन्नोत्पादक योग्य नहीं है और कहीं ऊबड़ खाबड़ एवं बहुत कठोर है।
इस प्रकार ग्रामीणों की दुर्दशा और कष्टपूर्ण स्थिति को ध्यान में रखकर ही 'जवाहर रोजगार योजना' को अप्रैल 1989 को तत्कालीन युवा प्रधानमंत्री श्री राजीव गाँधी ने लोक सभा और राज्य सभा दोनों सदनों में इसे लागू करने के लिए घोषित कर दिया था।
श्री गाँधी का यही मुख्य विचार रहा कि इस योजना का लाभ उन ग्रामीणों को प्राप्त होगा, जो हर प्रकार से शोषित, पीड़ित, सताए गए दीन दुखी और अभावग्रस्त जीवन जीने के लिए मजबूर किए जा रहे हैं। श्री गाँधी ने इस योजना को लागू करने के सन्दर्भ में यह घोषणा की थी 'इस योजना को सफलतापूर्वक कार्यान्वित करने के लिए 2100 करोड़ रूपये की धनराशि दी जायेगी। प्रत्येक गाँव का पंचायत तक पहुँचना ही मुख्य लक्ष्य है। भारत के ग्रामवासियों के समस्त अभावों को दूर करना इस योजना का सर्वप्रधान लक्ष्य और प्रयास होगा। निर्धनता और महामारी को दूर करने का महत्वपूर्ण प्रयास यह योजना करेगी। इस योजना के अन्तर्गत रोजगारों की प्राप्ति के भाग का 30 प्रतिशत केवल महिलाओं के लिए आरक्षित होगा। इस योजना के अन्तर्गत यह भी एक प्रावधान है कि प्रत्येक निर्धन ग्रामीण परिवार के एक सदस्य को उसके निवास स्थान के निकट एक वर्ष में 50 से 100 दिन तक रोजगार दिया जायेगा। अपने गाँवों में इस योजना को कार्यान्वित करने के लिए तीन से चार हजार व्यक्तियों वाली प्रत्येक पंचायत को प्रतिवर्ष अस्सी हजार से एक लाख रूपये की धनराशि मिलेगी बशर्ते कि उसका गाँव दूर स्थित एक पिछड़े हुए क्षेत्र में हो ।इस योजना की अपेक्षित धनराधि का अस्सी प्रतिशत केन्द्र सरकार तथा 20 प्रतिशत राज्य सरकारें वहन करेंगी।

SubQuestion No: 19
Q. 19 उपरोक्त गद्यांश के अनुसार 'जवाहर रोजगार योजना' की अपेक्षित धनराधि का कितना प्रतिशत राज्य सरकारें वहन करेंगी।

Ans 1. पचास प्रतिशत
2. बीस प्रतिशत
3. सत्तर प्रतिशत
4. अस्सी प्रतिशत

## Comprehension:

दिए गए गद्यांश का ध्यानपूर्वक अध्ययन कर प्रश्नों का उत्तर दीजिए।
हमारा देश कृषि प्रधान देश है। यहाँ की अस्सी प्रतिशत जनसंख्या केवल गाँवों में निवास करती है। इतनी बड़ी जनसंख्या का भाग शिक्षा और ज्ञान के क्षेत्र में बहुत पिछड़ा हुआ है। इस पिछड़ेपन के कारण एक नहीं अनेक हैं। ये एक समान नहीं हैं, अपितु विविध है। कहीं तो भूमि अन्नोत्पादक योग्य नहीं है और कहीं ऊबड़ खाबड़ एवं बहुत कठोर है। इस प्रकार ग्रामीणों की दुर्शा और कष्टपूर्ण स्थिति को ध्यान में रखकर ही 'जवाहर रोजगार योजना' को अप्रैल 1989 को तत्कालीन युवा प्रधानमंत्री श्री राजीव गाँधी ने लोक सभा और राज्य सभा दोनों सदनों में इसे लागू करने के लिए घोषित कर दिया था।
श्री गाँधी का यही मुख्य विचार रहा कि इस योजना का लाभ उन ग्रामीणों को प्राप्त होगा, जो हर प्रकार से शोषित, पीडित, सताए गए दीन दुखी और अभावग्रस्त जीवन जीने के लिए मजबूर किए जा रहे हैं। श्री गाँधी ने इस योजना को लागू करने के सन्दर्भ में यह घोषणा की थी 'इस योजना को सफलतापूर्वक कार्यान्वित करने के लिए 2100 करोड़ रूपये की धनराशि दी जायेगी। प्रत्येक गाँव का पंचायत तक पहुँचना ही मुख्य लक्ष्य है। भारत के ग्रामवासियों के समस्त अभावों को दूर करना इस योजना का सर्वप्रधान लक्ष्य और प्रयास होगा। निर्धनता और महामारी को दूर करने का महत्वपूर्ण प्रयास यह योजना करेगी। इस योजना के अन्तर्गत रोजगारों की प्राप्ति के भाग का 30 प्रतिशत केवल महिलाओं के लिए आरक्षित होगा। इस योजना के अन्तर्गत यह भी एक प्रावधान है कि प्रत्येक निर्धन ग्रामीण परिवार के एक सदस्य को उसके निवास स्थान के निकट एक वर्ष में 50 से 100 दिन तक रोजगार दिया जायेगा। अपने गाँवों में इस योजना को कार्यान्वित करने के लिए तीन से चार हजार व्यक्तियों वाली प्रत्येक पंचायत को प्रतिवर्ष अस्सी हजार से एक लाख रूपये की धनराशि मिलेगी बशर्ते कि उसका गाँव दूर स्थित एक पिछड़े हुए क्षेत्र में हो ।इस योजना की अपेक्षित धनराधि का अस्सी प्रतिशत केन्द्र सरकार तथा 20 प्रतिशत राज्य सरकारें वहन करेंगी।

SubQuestion No: 20
Q. 20 उपरोक्त गद्यांश के अनुसार 'जवाहर रोजगार योजना' को किस वर्ष में तत्कालीन युवा प्रधानमंत्री श्री राजीव गाँधी ने घोषित किया था?
Ans 1. अप्रैल 1989
Х 2. अप्रैल 1998
Х 3 . जूलाई 1989
X4. मई 1989

## Section : Discipline1

Q. 1 In angular measurement of the Centesimal system 2, circumference is equal to $\qquad$ _.
Ans

* 1.800 g

X2. 200 g
Х 3.600 g
Х 4.400 g

## Q. 2 One mile is equal to how many Gunter's chains?

Ans
$\times 1.20$

- 2.80

Х 3.40
Х 4.60
Q. 3 According to the theory of probability, small errors tend to be more frequent than the large ones. This means they are more $\qquad$ _.

Ans
X 1. negative
2. probable
3. improbable
< 4. positive
Q. 4 Which of the following chains is mainly used for measuring fields in cadastral survey?

Ans

1. Engineer's chain

- 2. Revenue chain

3. Surveyor's chain
4. Gunter's chain
Q. 5 In chaining on uneven or sloping ground, direct method is also called method of $\qquad$ .
Ans

- 1 . stepping

2. stripping

X 3. chaining
(4. sliding
Q. 6 The more experienced of the chainmen remains at the zero end or rear end of the chain and is called the $\qquad$ -.

Ans
>1. fixer
2. follower

X 3 . leader
< 4. handler
Q. 7 According to the code of signals for ranging, both arms extended forward horizontally and the hands depressed briskly indicates $\qquad$ _.
Ans

1. correct
$X$
2. plumb the rod upwards3. incorrect
3. fix the rod
Q. 8 One sq.metre is equal to $\qquad$ sq.inches.
Ans

- 1.1550
>2. 1000
Х 3.1750
Х4.1250
Q. 9 If the whole circle bearing is between $0^{\circ}$ and $90^{\circ}$, (reduced bearing) $R B=W C B-180^{\circ}$, then the quadrant will be:
Ans
X1.NE
- 2. SW

X 3 .nW
>4.SE
Q. 10 In chaining on uneven ground, if $h$ is the difference in level and $I$ is the length of the slope, then horizontal distance D can found by $\qquad$ _.

Ans
X1. $\mathrm{D}=\mathrm{h}^{2}+\mathrm{I}^{2}$

- 2. $D=V\left(l^{2}-h^{2}\right)$

X $3 . \mathrm{D}=\mathrm{l}^{2}-\mathrm{h}^{2}$
X4. $\mathrm{D}=\sqrt{ }\left(\mathrm{h}^{2}-\mathrm{I}^{2}\right)$
Q. 11 According to British units one mile is equal to $\qquad$ furlongs.
Ans 1.8
X 2.6
$\times 3.4$
$\times 4.2$
Q. 12 The earth's polar axis is shorter than the equatorial axis by $\qquad$ .
Ans
Х 1.55 .20 km
X 2.45 .20 km

- 3.42 .95 km

X 4.52 .95 km
Q. 13 Cumulative errors are also called $\qquad$ .
Ans

- 1. systematic errors

X 2. mistakes
3 3. accidental errors
X 4. compensating errors
Q. 14 According to metric units 10 decimetres is equal to $\qquad$ .
Ans X

1. 0.1 m
2.1 m
\$3.100 m
入 4.10 m
Q. 15 Which of the following is NOT a type of meridian?

Ans 1. Angular meridian
2. Arbitrary meridian

Х 3. True meridian
4. Magnetic meridian

## Question ID : $\mathbf{5 4 5 9 2 7 6 9 4 0 6}$

Q. 16 If $L$ is the measured length of the line, $c$ is correction per tape length, $I$ is the designated length of the tape, then correction for absolute length Ca of the tape is calculated by $\qquad$ _.
Ans
X $1 . \mathrm{Ca}=(\mathrm{c}+\mathrm{I}) / \mathrm{L}$
X 2 . $\mathrm{Ca}=(\mathrm{L}-\mathrm{c}) / \mathrm{I}$

- 3. $\mathrm{Ca}=(\mathrm{c} * \mathrm{~L}) / \mathrm{I}$

X4. $\mathrm{Ca}=(\mathrm{c}-\mathrm{I}) / \mathrm{L}$
Q. 17 An error in which the maximum allowable limit that a measurement may vary from the true value is called $\qquad$ —.
Ans1. permissible error2. cumulative error3. maximum error
4. mistake
Q. 18 According to the code of signals for ranging, left arm extended signal indicates $\qquad$ —.
Ans 1. continue to move to the left
2. plumb the rod to the left
3. move slowly to the left
4. move considerably to the left
Q. 19 Which of the following is NOT a type of scale?

Ans
X 1. Vernier scale
Х 2. Plain scale
3. Scale of chords

- 4. Scale of chains
measurement of distance is $\qquad$ and $\qquad$ _.
Ans
- 1. metres and centimetres

Х 2. centimetres and millimetres
3. miles and kilometres
4. kilometres and metres

## Section : Discipline2

Q. 1 The probable error of a single observation is calculated from the equation $\qquad$ -.
Ans
X 1 . $\mathrm{Es}= \pm 0.729 \sqrt{ } \sum \mathrm{r}^{2} / \mathrm{n}-1$

- 2. $E s= \pm 0.6745 \sqrt{ } \Sigma v^{2} / n-1$

Х $3 . \mathrm{Es}= \pm 0.6745 \sqrt{ } \mathrm{~V} \mathrm{v}^{2} / \mathrm{r}-1$
Х4. $\mathrm{Es}= \pm 0.943 \sqrt{ } \Sigma v^{2} / n-1$
Q. 2 Axial force in a member is considered positive when it produces $\qquad$ in a member.
Ans
Х 1. strain

- 2. tension

X 3. pressure
X4. stress
Q. 3 If the Reynold number is less than 2000 in a pipe, the flow is a $\qquad$ -.
Ans
Х 1. compressed flow

- 2. Iaminar flow

Х 3. turbulent flow
4. mechanical flow
Q. 4 In errors due to incorrect chain, correction to area is done by using the formula $\qquad$ _.
Ans
Х1. $\mathrm{A}^{\prime}=(1+4 \mathrm{e}) \mathrm{A}$

- 2. $A=(1+2 e) A^{\prime}$

X 3. $\mathrm{A}=(1-2 \mathrm{e}) \mathrm{A}^{\prime}$
Х4. $A=(2 e-1) A^{\prime}$
Q. 5 The ratio of the load causing collapse to the working load is called $\qquad$
Ans
X 1. collapsing factor
2. shape factor
4. load factor
Q. 6 Vernier theodolites use verniers which have a least count of $\qquad$ to $\qquad$ ـ.

Ans
X 1. 20" to $30^{\prime \prime}$
Х 2. 40 " to $50^{\prime \prime}$
Х 3.30 " to $40^{\prime \prime}$
4. 10 " to $20^{\prime \prime}$
Q. 7 Which of the following instruments is used for the measurement of a slope?

Ans
X 1. Pantograph
X 2. Foot-rule clinometre
3. Fennel's clinometre
4. Ceylon ghat tracer
Q. 8 The shape factor for circular section is $\qquad$ _.
Ans
Х1.1.2

- 2.1 .7

Х 3.1 .8
X4.1.5
Q. 9 What is used to empty a channel when it is NOT provided with any sluice?

Ans 1. Syphon
Х 2 . Manometer
X 3. Notches
4. Hydraulic jacks
Q. 10 Electro-magnetic distance measurement ranges up to $\qquad$
Ans
X 1.25 km

- 2.100 km

X 3.50 km
> 4.10 km
Q. 11 Particle Detention time in detention tank is the ratio of

Ans
2. Density by flow rate

X 3. Flow rate by Density
(4. Volume by Density
Q. 12 The erroneous length of a chain or tape is $\qquad$ _.
Ans

1. compensating -

2 2 . cumulative -

- 3. cumulative + or -

4. compensating +

## Q. 13 In Self cleansing velocity

Ans

1. Solid particles get settled at the bottom
2. Solid particles will float on surface
3. Solid along with water move at very high speed

- 4. Solid particles will remain in suspension
Q. 14 Eloctro-magnetic distance measurement enables accuracies up to $\qquad$ _.
Ans
- 1.1 in $10^{5}$

Х2.1 in $20^{5}$
Х3.1 in $30^{5}$
$\times 4.1$ in $40^{5}$
Q. 15 The unit of stress is $\qquad$
Ans
<1.m/s ${ }^{2}$
< 2 . $\mathrm{N} / \mathrm{m}$
X 3 .m/s

- $4 . \mathrm{N} / \mathrm{m}^{2}$
Q. 161 Newton $(N)$ is equal to $\qquad$
Ans
Х $1.10 \mathrm{~kg} \mathrm{~m} / \mathrm{s}^{2}$
X $2.0 .1 \mathrm{~kg} \mathrm{~m} / \mathrm{s}^{2}$
- $3.1 \mathrm{~kg} \mathrm{~m} / \mathrm{s}^{2}$
< $4.100 \mathrm{~kg} \mathrm{~m} / \mathrm{s}^{2}$

Ans
$\times 1.0^{\circ} \mathrm{C}$
>2. $15^{\circ} \mathrm{C}$

- $3.20^{\circ} \mathrm{C}$

Х4. $10^{\circ} \mathrm{C}$
Q. 18 While making Invar Tape what is the percentage of nickel used?

Ans
X 1.54 percent
Х 2.18 percent
Х3. 72 percent

- 4.36 percent
Q. 19 The product of pressure intensity and cross sectional area of a flowing fluid is called $\qquad$ _.
Ans
Х 1. gravity force

2. elastic force

- 3. pressure force

Х 4 . viscous force
Q. 20 Which gas is the basic cause of Crown Corrosion

Ans
X ${ }^{1 . \mathrm{CO}_{2}}$
X ${ }^{2}{ }^{\mathrm{CH}_{4}}$

- $3 . \mathrm{H}_{2} \mathrm{~S}$

X4. $\mathrm{NH}_{3}$

## Section : Discipline3

Q. 1 Which force can be counteracted by providing super elevation of roads?

Ans
Х 1. Gravitational force
2. Frictional force

Х 3. Centripetal force

- 4. Centrifugal force
Q. 2 The process of reaction of carbon dioxide in the atmosphere with alkalis in the cement paste is called $\qquad$ _.
Ans

1. carbonation
2. oxygenation

3 3. deoxygenation
入4. decarbonation
Q. 3 The strength of material below which NOT more than 5 percent of the test results are expected to fail is called $\qquad$ _.
Ans
X 1. mean target strength
X 2. nominal strength

- 3. characteristic strength

4. compressive strength
Q. 4 In a liquid, when Mach number is greater than 1 , there is no effect of disturbance in the region outside the Mach zone. This region outside the Mach zone is called $\qquad$ -
Ans
5. zone of reaction

X 2. zone of resilience
X 3. zone of action
v 4. zone of silence
Q. 5 Due to which effect does concrete tend to expand laterally and longitudinal cracks become visible when the lateral strain exceeds the limiting tensile strain of concrete?

Ans
X 1. Thermal effect
X 2. Magnus effect
X 3 . Darcy's effect
4. Poisson effect

## Q. 6 When will cracking of concrete occur?

Ans $\chi$ 1. When the shear strength of concrete is exceeded
2. When the tensile strength of concrete is exceeded

3 3. When the tensile strength of concrete is reduced
4. When the shear strength of concrete is reduced
Q. 7 At what velocity of the fluid is the weight of the body equal to the drag force plus the buoyant force?
Ans
X 1. Constant velocity

- 2. Terminal velocity

Х 3. Initial velocity
4. Tangential velocity
Q. 8 From the following, a typical cross section of which class highways has a carriage width of 3 m ?

Ans
1 1. Typical 2 lane state highways
Х 2 . Urban arterial streets
3. Typical village roads
4. Urban residential streets

## Q. 9 What is back water curve?

Ans

- 1. It is the profile of the rising water on the upstream side of the obstruction

2. It is the profile of the falling water on the upstream side of the obstruction
3. It is the profile of the falling water on the downstream side of the obstruction
4. It is the profile of the rising water on the downstream side of the obstruction

## Q. 10 Which of these is NOT a function of curbs?

Ans 1. To provide space for walking
2. To delineate pavement edge

Х 3. To control drainage
Х 4. To present a more finished appearance
Q. 11 Which vehicle survey is carried out with the help of the police?

Ans

1. Home interview survey

X 2. Registration number plate survey
X 3. Postcard questionnaire survey

- 4. Roadside interview survey
Q. 12 The phenomenon of the lift force produced by a rotating cylinder in a uniform flow is known as $\qquad$
Ans

1. Reynolds effect

- 2. Magnus effect

3. Fluid effect

- 4. Dielectric effect
Q. 13 Which method assumes that the structural material behaves in a linearly elastic manner?

Ans

1. None of the given options
2. Ultimate load method

Х 3. Limit state method
Q. 14 Which of these is INCORRECT in case of channelised intersection of roads?

Ans

1. Separates conflicts
$\checkmark 2$
2. Very cheap to construct

X 3. Controls speed
Х 4. Protects pedestrians
Q. 15 The ultimate moment capacity of the slab should NOT be exceeded at any point on the slab. This condition is known as $\qquad$ _.
Ans
入 1. mechanism condition
Х 2. Iongitudinal condition

- 3. yield condition

4. equilibrium condition
Q. 16 What is the width of arterial roads in case of Bombay Plan?

Ans

1. Four lane width

X 2 . Single lane width
3. Three lane width
4. Double lane width
Q. 17 The cylinder strength is found to be invariably $\qquad$ the cube strength for the same quality of concrete.
Ans

1. higher than
2. same as
< 3.zero
3. lower than
Q. 18 The code book used for the storage of liquids for concrete structures is $\qquad$
Ans
X 1. IS 456:2000
X 2. IS 13920:1993
X 3. IS 1893:2002
4. IS $3370: 1965$
Q. 19 What is the intermediate width followed in India for less important roads with two lanes?

Ans
Х 1.5 .0 m
3. 4.5 m
4. 5.5 m
Q. 20 If the Mach number is equal to 1 , the flow is said to be $\qquad$ -.
Ans
Х 1. super-sonic flow
< 2. real flow
3. sonic flow
4. sub-sonic flow

## Section : Discipline4

Q. 1 Which of the following is an igneous rock?

Ans
X 1. Limestone

- 2. Granite

X 3. Quartzite
X4.Kankar
Q. 2 Which type of soil particle structures is exhibited in gravel when it is deposited due to gravitational forces?
Ans

- 1. Single grained structure

2. Flocculated structure

X 3. Dispersed structure
X 4. Honey comb structure
Q. 3 To what diameter of rolls is soil rolled in order to determine its plastic limit?

Ans

- 1.3 mm

Х 2.2 mm
Х 3.4 mm
X 4.5 mm
Q. 4 Which soil type has specific gravity in the range 2.68 - 2.80 ?

Ans
(1. Gravel
2. Organic soil
3. Inorganic clays
Q. 5 In cement concrete, a substitution of cement with 30 percent fly ash may result in reduction of heat of hydration by $\qquad$ —.

Ans

1. $50-60$ percent
(2. 30-45 percent
(3.40-55 percent
(4.25-35 percent
Q. 6 Which of this is also called as water plasticity ratio?

Ans

1. Plasticity index
2. Liquidity index

X 3. Flow index
4. Consistency index
Q. 7 What is the minimum height of the bottom of a pavement followed while drawing the longitudinal profile of embankment in order to find its height?
Ans
Х 1.0 .7 m
>2. 0.5 m
入3. 0.4 m

- 4.0 .6 m
Q. 8 Which of these is an index property of soil?

Ans
X 1. Compressibility
X 2. Permeability

- 3. Relative density

4. Shear strength
Q. 9 The Flakiness index and Elongation index test is NOT applicable to aggregate sizes smaller than $\qquad$
Ans
Х 1.10 mm
人 2.12 mm
Х 3.4 .75 mm

- 4.6 .3 mm
$\qquad$ _.

Ans
< 1. aerial soil
< 2. areola soil
X 3. wind soil

- 4. Aeolian soil
Q. 11 What is the diameter of the hole in the cap used for pycnometer method of determining water content of soil?
Ans
2. 6 mm
< 3.3 mm
> 4.4 mm
Q. 12 In which of these chemical decomposition methods of formation of soil does water get dissociated into $\mathrm{H}+$ and OH - ions?

Ans

1. Hydrolysis
2. Solution
3. Oxidation
4. Hydration
Q. 13 In which of these soil deposits does alternate layers of sand, silt and clay exist?

Ans

- 1. Alluvial soil
(2. Marine deposits
< 3. Black cotton soil
< 4. Laterite soil
Q. 14 Which soil type has sensitivity less than 1 ?

Ans
(1. Sensitive soil

- 2. Insensitive soil

3. Extra sensitive soil

4 4. Little sensitive soil
Q. 15 What is the other name for a roundabout intersection of roads?

Ans
Х 1. T-intersection
Х 2 . scissors intersection
X 3. Y-intersection

- 4. Rotary intersection


## Q. 16 Which of these does NOT affect the suction capacity of soil?

Ans

- 1. Pressure of water

Х 2. Dissolved salts
3. Angle of contact
4. Temperature
Q. 17 Which of the following shaped particles of aggregates have the highest shear strength?

Ans
X 1

1. Rounded

2 2. Sub angular
3. Well rounded
4. Angular
Q. 18 In which type of soils are soil particles cemented by calcium carbonate?

Ans

1. Caliche

X 2 . Fills
(3.Bentonite

Х 4. Black cotton soil
Q. 19 Which of these is NOT INCORRECT in case of particle size distribution curve of soil mass?

Ans

1. It helps to determine soil susceptibility to frost action
2. It is used in classification of coarse grained soils

- 3. It doesn't tell anything about soil compressibility

4. It is used in soil stabilisation
Q. 20 Which is the most commonly used method of construction of flow net?

Ans

1. Plastic models

- 2. Graphical method

X 3. Soil models
X 4. Solution of Laplace's equation

## Section : Discipline5

Q. 1 A joint provided in the length of a column is called $\qquad$ ـ.
Ans
(2. lug angle

- 3. splice
< 4. batten
Q. 2 Process of taking levels on each side of a main line at right angles to that line is called as
$\square$
Ans


Х 2. profile levelling
3. reciprocal levelling4. cross-section levelling
Q. 3 Elongated aggregates are those whose length is $\qquad$ _.
Ans
X1. 1.6 times its mean dimension
2. 0.4 times its mean dimension
3.1.8 times its mean dimension
4.1.2 times its mean dimension
Q. 4 In a staircase, a large baluster or post used to anchor the handrail is known as $\qquad$ _.

Ans
\$ 1. wall string
< 2 . nosing
>3. finial
4. newel

## Q. 5 The amount of irrigation water required in order to meet the evapotranspiration needs of the

 crop during its full growth is called $\qquad$ —.Ans
1 1. consumptive use
$\chi$
2. net irrigation requirement3. effective rainfall

- 4. consumptive irrigation requirement
Q. 6 Why is soda used during the manufacture of glass?

Ans
X 1. To modify hardness of glass
X 2. To increase its resistance to fire
3. To accelerate the fusion of glass
4. To impart colour and shine
Q. 7 As per IS: 3495 (part I), what is the loading rate used to find the compressive strength of bricks?
Ans
Х $1.45 \mathrm{~N} / \mathrm{m}^{2}$ per minute
Х $2.32 \mathrm{~N} / \mathrm{m}^{2}$ per minute

- $3.14 \mathrm{~N} / \mathrm{m}^{2}$ per minute

Х $4.24 \mathrm{~N} / \mathrm{m}^{2}$ per minute
Q. 8 The process of taking levels on each side of a main line at right angles to that line is called

Ans
Х 1. reciprocal levelling

- 2. cross-section levelling

3. profile levelling
4. differential levelling
Q. 9 Schmidi's Rebound Hammer technique is used to measure $\qquad$ _.
Ans
Х 1. shrinkage limit
5. surface hardness3. tensile Strength
(4. compressive strength
Q. 10 Briquette Mould is used for which of the following tests of bitumen?

Ans

1. Flash and Fire point test

Х 2. Adhesion test
3. Distillation test
4. Ductility test
Q. 11 Which apparatus is used to find the softening point of bitumen?

Ans
1 1. Briquette Mould
Х 2. Penetrometer
3. Ring and Ball apparatus
(4. Furol viscometer
Q. 12 A hydraulic jump is said to be a Steady Jump if its Froude number is $\qquad$ _.
Ans
< 1 . between 1 to 1.7
<2. between 2.5 to 4.5
(3. less than 1
Q. 13 Which of the following effects of Fly Ash on cement concrete is INCORRECT?

Ans 1. Reduces the permeability of concrete
2. Reduces the amount of air entraining agents

Х 3. Slightly improves the resistance to sulphate attack

- 4. Increases the heat of hydration of concrete
Q. 14 If $p$ is the standard consistency of cement, the amount of water used to find the initial setting time of cement is $\qquad$
Ans
- 1.0 .85 p

人2. 0.70 p
$\times 3.0 .75 \mathrm{p}$
>4.0.80p
Q. 15 Le-Chatelier apparatus is used to find the $\qquad$ _.

Ans 1. permeability of cement
\$ 2. consistency of cement
3. setting time of cement
4. soundness of cement
Q. 16 What is the top diameter and bottom diameter of the frustum of the cone used for slump test to find the consistency of concrete?
Ans
X $1.10 \mathrm{~cm}-15 \mathrm{~cm}$
X2. $15 \mathrm{~cm}-20 \mathrm{~cm}$
X $3.20 \mathrm{~cm}-30 \mathrm{~cm}$

- $4.10 \mathrm{~cm}-20 \mathrm{~cm}$
Q. 17 If $S$ is the strength of concrete and x is the gel/space ratio, then according to Power's and Brownyard the relation between strength and gel/space ratio is $\qquad$ —.
Ans
Х $1 . S=140 / x^{3}$
X2. $s=140 x^{3}$
-3. $S=240 x^{3}$
X4.S $=240 / x^{3}$
$\qquad$ _.
(1. ferrous material
(2. polymeric material

3. anhydride

- 4. ceramic material
Q. 19 The time period that elapses from the instant of its sowing to the instant of its harvesting is called $\qquad$
Ans

1. rotation period
< 2. growth period
Х 3. base period

- 4. crop period
Q. 20 The distance between the centre of two consecutive rivets measured along a row of rivets is known as $\qquad$ —.

Ans
< 1. edge distance
X 2. gauge

- 3. pitch
<4. eccentricity

