



## SSC JE Civil Engineering 2015

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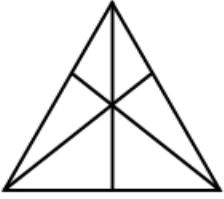
# General Intelligence and Reasoning

## Instructions

For the following questions answer them individually

### Question 1

How many triangles are there in the figure?

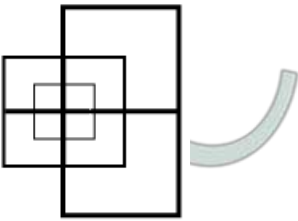


- A 7
- B 10
- C 16
- D 20

Answer: C

### Question 2

Find the number of minimum straight lines required to make figure

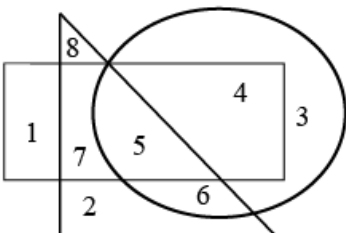


- A 13
- B 17
- C 15
- D 19

Answer: A

### Question 3

Write the number of space enclosed by rectangle and circle but not by triangle



- A 3
- B 2

C 1

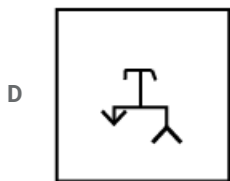
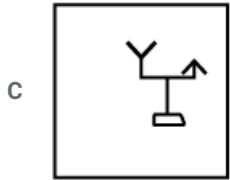
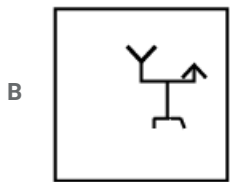
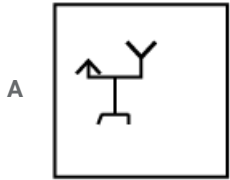
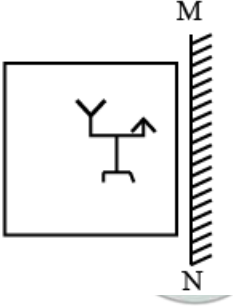
D 4

Answer: D

Question 4

If a mirror is placed on the line MN, then which of the answer figures is the right image of the given figure?

**Question figure**



Answer: A

Question 5

A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in two matrices given below. The columns and rows of Matrix I are numbered from 0 to 4 and that of Matrix II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g. 'M' can be represented by 01, 14 etc., and 'S' can be represented by 58, 77 etc. Similarly, you have to identify the set the word 'ROHAN'.

Matrix I					
	0	1	2	3	4
0	H	M	X	W	K
1	N	R	N	Y	M
2	K	V	H	P	W
3	Y	Z	R	M	N
4	W	V	H	J	P

Matrix II					
	5	6	7	8	9
5	A	D	E	S	B
6	T	U	O	G	Q
7	O	Q	S	D	A
8	S	E	U	E	D
9	Q	B	A	T	O

- A 11, 57, 00, 55, 12
- B 11, 75, 00, 55, 10
- C 32, 75, 21, 55, 10
- D 32, 67, 41, 55, 12

Answer: B

Explanation:

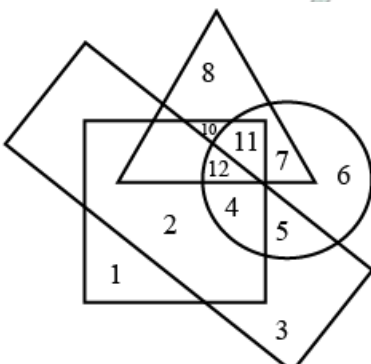
- R = 11, 32,
- O = 75, 67, 99
- H = 00, 22,
- A = 55, 97, 79
- N = 10, 12, 34,

From option B,  
ROHAN = 11, 75, 00, 55, 10

∴ The correct answer is option B.

Question 6

In the given figure, the circle stands for intelligent, square for hardworking, triangle for Post graduate and the rectangle for loyal employees. Study the figure and answer the following questions. Employees who are intelligent, hardworking and loyal but not Post graduate are represented by



- A 11
- B 5
- C 4
- D 3

Answer: C

**Instructions**

In following questions one/two statement(s) are given are followed by two conclusion/assumption, I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusion/assumptions, if any, follows from the given statements.

**Question 7**

**Statements :** All students are girls.

**Some students are not talented.**

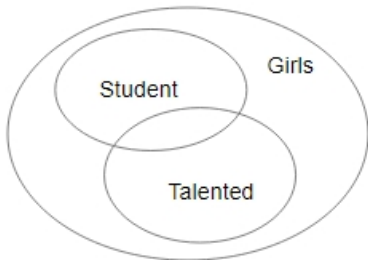
**Conclusions :** I. No students is talented

II. Some girls are talented

- A Only I follows
- B Only II follows
- C Both I and II follows
- D Neither I nor II follows

Answer: D

Explanation:



Neither I nor II follows.

∴ the correct answer is option D.

**Question 8**

**Statements :** 1. Tigers do not fly

2. Hens do not fly.

**Conclusions :** I. Tigers are birds

II. All birds cannot fly

- A Only I follows
- B Only II follows
- C Both I and II follows
- D Neither I nor II follows

Answer: D

Explanation:

From the both statements,

Neither I nor II follows.

∴ The correct answer is option D.

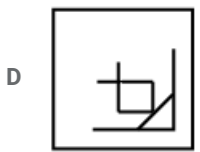
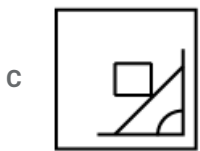
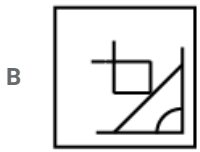
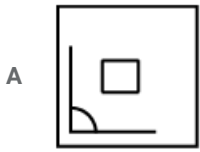
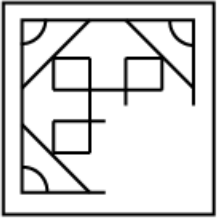
**Instructions**

For the following questions answer them individually

Question 9

Which answer figure will complete the pattern in the question figure?

**Question figure**

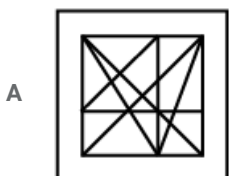
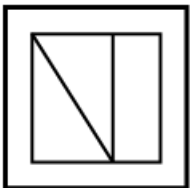


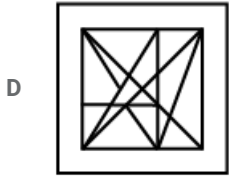
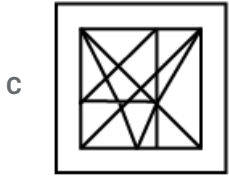
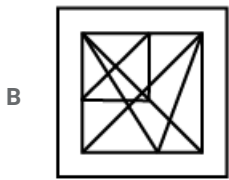
Answer: B

Question 10

From the given answer figures, select the one in which the question figure is hidden/embedded.

**Question figure**



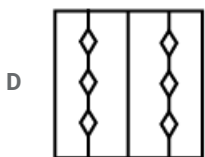
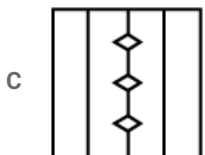
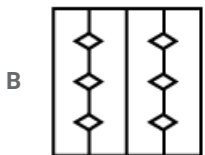
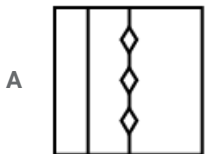
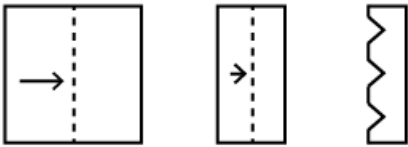


Answer: A

Question 11

A piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

Question figures



Answer: B

Question 12

Ramu's mother has three sons. The eldest one is called onekari, the second one is called twokari. Then the third son's name is

- A Teenkari
- B Sandu
- C Ramu
- D Nokari

**Answer: C**

**Explanation:**

Third son's name is Ramu.

**Question 13**

**Ashok is heavier than Gopal. Mahesh is lighter than Jayesh. Prashant is heavier than Jayesh but lighter than Gopal. Who among them is heaviest ?**

- A Gopal
- B Ashok
- C Prashant
- D mahesh

**Answer: B**

**Explanation:**

Ashok is heavier than Gopal so,

Ashok > Gopal

Mahesh is lighter than Jayesh so,

Jayesh > Mahesh

Prashant is heavier than Jayesh but lighter than Gopal so,

Gopal > Prashant > Jayesh

by the combination of all statements,

Ashok > Gopal > Prashant > Jayesh > Mahesh

So, Ashok is heaviest.

**Question 14**

**From the given alternative words, select the word which cannot be formed using the letters of the given word :**

**KILOMETERS**

- A OIL
- B MEET
- C TREES
- D STREET

**Answer: D**

**Explanation:**

'STREET' cannot be formed using the letters of the 'KILOMETERS'.

**Question 15**

**In a certain code language, if the word 'RHOMBUS' is coded as TJQODWU, then how is the word 'RECTANGLE' in that language ?**



- A TGEVCPIMG
- B TGEVCPING
- C TGEWDPING
- D TGFWEPIING

**Answer: B**

**Explanation:**

'RHOMBUS' is coded as,

- R + 2 = T
- H + 2 = J
- O + 2 = Q
- M + 2 = O
- B + 2 = D
- U + 2 = W
- S + 2 = U

Similarly,

- R + 2 = T
- E + 2 = G
- C + 2 = E
- T + 2 = V
- A + 2 = C
- N + 2 = P
- G + 2 = I
- L + 2 = N
- E + 2 = G

'RECTANGLE' is coded as 'TGEVCPING'.

∴ The correct answer is option B.

**Question 16**

If in a certain code 'Education' is written as 3 6 5 7 9 8 2 1 4 then how 'Conduct' can be written?

- A 7 1 4 6 5 7 8
- B 6 5 4 7 8 7 1
- C 1 4 5 8 7 7 6
- D 6 4 8 5 7 6 7

**Answer: A**

**Explanation:**

- E = 3
- D = 6
- U = 5
- C = 7
- A = 9
- T = 8
- I = 2
- O = 1
- N = 4

'Conduct' can be written as '7146578'.

**Question 17**

If  $7x = 8k$  and  $5y = 6k$  then the value of ratio  $x$  is to  $y$  is

A 20 : 21

B 21 : 20

C 35 : 48

D 48 : 35

**Answer: A**

**Explanation:**

$$7x = 8k$$

$$x = 8k/7$$

$$\text{and } 5y = 6k$$

$$y = 6k/5$$

$$x : y = \frac{8k}{7} : \frac{6k}{5} = 20 : 21$$

**Question 18**

If  $44 + 12 = 30$ ,  $77 + 14 = 61$ ,  $84 + 16 = 66$  then what should be for  $44 + 22 = ?$

A 28

B 20

C 32

D 24

**Answer: B**

**Explanation:**

$$44 - (12 + 2) = 30$$

$$77 - (14 + 2) = 61$$

$$84 - (16 + 2) = 66$$

Similarly,

$$44 - (22 + 2) = 20$$

∴ The correct answer is option B.

**Question 19**

Select the set of symbols which can be fitted correctly in the equation,

$$8 \underline{\quad} 4 \underline{\quad} 2 \underline{\quad} 6 \underline{\quad} 3 = 32$$

A  $\times, -, +, \div$

B  $+, \times, \div, -$

C  $+, \div, \times, -$

D  $-, \times, \div, +$

**Answer: A**

**Explanation:**

From option A),

LHS

$$8 \times 4 - 2 + 6 \div 3$$

$$32 - 2 + 2$$

$$= 32$$

RHS

∴ Option A is the correct answer

### Instructions

In the following question, which one of the given responses would be a meaningful order of the following?

### Question 20

1. Village
2. State
3. Nation
4. District

- A 1, 2, 4, 3  
B 1, 4, 2, 3  
C 2, 3, 1, 4  
D 4, 2, 3, 1

Answer: B

### Explanation:

Village are comes under the District, District comes under the State and State comes under the Nation.

### Question 21

1. Branches
2. Root
3. Trunk
4. Leaf
5. Flower

- A 4, 1, 3, 2, 5  
B 2, 3, 1, 4, 5  
C 1, 2, 3, 4, 5  
D 4, 3, 1, 2, 5

Answer: B

### Explanation:

The order of the parts of a tree - Root, Trunk, Branch, Leaf, Flower

∴ Option B is the correct answer.

### Question 22

1. Adulthood
2. Babyhood
3. Childhood
4. Infancy

- A 4, 3, 2, 1  
B 4, 2, 3, 1  
C 4, 1, 2, 3

D 4, 3, 1, 2

**Answer: B**

**Explanation:**

The first stage of every person is infancy then babyhood after then childhood and the next stage adulthood so order, Infancy, babyhood, childhood, adulthood

∴ Option B is the correct answer.

**Instructions**

In the following questions, a series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

**Question 23**

**CDDP DEER EFFT FGGV GHX ?**

A ZIIH

B HIIZ

C HJJY

D HIJZ

**Answer: B**

**Explanation:**

In the series, every letter increased by 1 in each term. So,

Next term = HIIZ

∴ The correct answer is option B.

**Question 24**

**l m n m n o p n o p q r ?**

A pqrst

B lmnop

C opqrs

D hpqrs

**Answer: C**

**Explanation:**

The series follows pattern as,

**lmn/mnop/nopqr/opqrst**

∴ The correct answer is option C.

**Question 25**

**R I A T N I E ?**

A A

B B

C C

D D

Answer: B

**Explanation:**

In the alphabet 'R' is the 9 letter from the reverse order.

I is the 9th letter from R

A is the 8th letter from I

T is the 7th letter from A

N is the 6th letter from T

I is the 5th letter from N

E is the 4th letter from I

So,

The 3rd letter from E is B.

∴ The correct answer is option B.

**Question 26**

$\left(\frac{1}{8}\right), \left(\frac{1}{4}\right), \left(\frac{1}{2}\right), 1, ?, 4$

A  $\left(\frac{3}{8}\right)$

B  $\left(\frac{2}{8}\right)$

C 2

D 6

Answer: C

**Explanation:**

The series follows pattern as,

$$\frac{1}{8} \times 2 = \frac{1}{4},$$

$$\frac{1}{4} \times 2 = \frac{1}{2},$$

$$\frac{1}{2} \times 2 = 1,$$

$$1 \times 2 = 2,$$

$$2 \times 2 = 4$$

Missing term = 2

**Question 27**

11, 12, 16, 25, ?

A 45

B 41

C 43

D 49

Answer: B

**Explanation:**

$$11 + 1^2 = 12$$

$$12 + 2^2 = 16$$

$$16 + 3^2 = 25$$

$$25 + 4^2 = 41$$

**Question 28**

3, 9, 21, 45, ?

A 54

B 78

C 87

D 93

**Answer: D**

**Explanation:**

the series follows pattern as,

$$0 + 3 = 3$$

$$3 + 6 = 9$$

$$9 + 12 = 21$$

$$21 + 24 = 45$$

$$45 + 48 = 93$$

∴ Option D is the correct answer.

**Instructions**

In the following questions, select the missing number from the given responses.

**Question 29**

13	15	12
2	4	5
4	5	8
30	65	?

A 64

B 69

C 65

D 68

**Answer: D**

**Explanation:**

$$13 \times 2 + 4 = 30$$

$$15 \times 4 + 5 = 65$$

$$12 \times 5 + 8 = 68$$

**Question 30**

20	30	12
3	4	8
80	?	116

A 120

B 60

- C 100  
D 140

Answer: D

Explanation:

$$20 \times 3 + 20 = 80$$

$$12 \times 8 + 20 = 116$$

$$30 \times 4 + 20 = 140$$

Instructions

For the following questions answer them individually

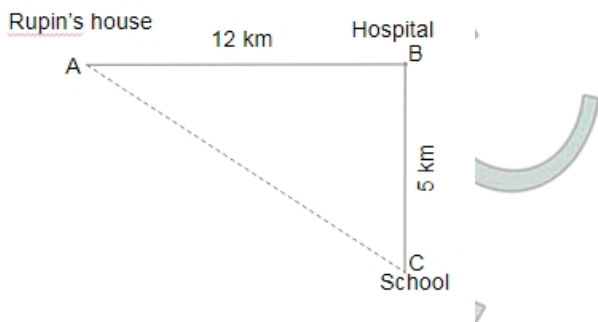
Question 31

Hospital is 12 km towards east of Rupin's house. His school is 5 km towards south of Hospital. What is the shortest distance between Rupin's house and school?

- A 16 km  
B 17 km  
C 12 km  
D 13 km

Answer: D

Explanation:



From the Pythagoras,

$$AC^2 = AB^2 + BC^2$$

$$AC^2 = (12)^2 + (5)^2$$

$$AC^2 = 169$$

$$AC = 13 \text{ km}$$

Shortest distance = 13 km.

Question 32

Two cars started from a particular spot. The car A ran straight at the speed of 30 kmph for 2 hours north and then took a right turn. It ran 40 km and again turned right. It stopped after east at the speed of 20 kmph for 2 hours and turned left. It ran for 100 km and then stopped. How far were there two cars from each other when both of them stopped at last ?

- A 17 km  
B 18 km  
C 19 km  
D 20 km

**Answer: D**

**Instructions**

In the following questions, select the related word/ letters/number from the given alternatives.

**Question 33**

**CHAIR : FURNITURE :: FORK : ?**

- A SPOON
- B CUTLERY
- C CROCKERY
- D FOOD

**Answer: B**

**Explanation:**

Chair comes under the furniture similarly fork comes under the cutlery.

**Question 34**

**Compass : Ship :: Vastu : ?**

- A Building
- B Flat
- C Home
- D Land

**Answer: C**

**Explanation:**

Compass used to find the correct direction of ships similarly vastu used to to find the correct direction of **home**.

**Question 35**

**BOOK : LIBRARY :: ? : FILE**

- A COMPUTER
- B DATA
- C FOLDER
- D BYTES

**Answer: B**

**Explanation:**

Books are available in the library similarly **data** is available in file.

**Question 36**

**q : d :: b : ?**

- A p
- B d



C q

D b

**Answer: A**

**Explanation:**

Water image of 'q' is 'd'.

Similarly,

Water image of 'b' is 'p'.

∴ The correct answer is option A.

**Question 37**

**ABB : EGJ :: FHL : ?**

A BDH

B JMT

C FHH

D JJL

**Answer: B**

**Explanation:**

In ABB : EGJ,

A + 4 → E

B + 5 → G

B + 6 → H

Similarly,

In FHL : ?,

F + 4 → J

H + 5 → M

L + 6 → T

Missing term - JMT

**Question 38**

**EV : KP :: TG : ?**

A ZA

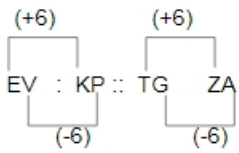
B AZ

C ZZ

D AA

**Answer: A**

**Explanation:**



Missing term = ZA

**Question 39**

21 : 65 :: 31 : ?

- A 78
- B 80
- C 85
- D 95

**Answer: D**

**Explanation:**

$$21 \times 3 + 2 = 65$$

$$31 \times 3 + 2 = 95$$

∴ Option D is the correct answer.

**Question 40**

17 : 102 :: 23 : ?

- A 112
- B 138
- C 216
- D 413

**Answer: B**

**Explanation:**

$$17 \times 6 = 102$$

Similarly,

$$23 \times 6 = 138$$

**Question 41**

25 : 36 :: ?

- A 9 : 25
- B 16 : 25
- C 25 : 49
- D 81 : 121

**Answer: B**

**Explanation:**

$$5^2 = 25$$

$$(5 + 1)^2 = 6^2 = 36$$

Similarly,

$$4^2 = 16$$

$$(4 + 1)^2 = 5^2 = 25$$

∴ Option B is the correct answer.

#### Instructions

In the following questions, find the odd word/number pair from the given alternatives.

#### Question 42

- A stare
- B glance
- C look
- D hug

**Answer:** D

#### Explanation:

Except 'hug' remaining all words mean to look something.

∴ The correct answer is option D.

#### Question 43

- A Analogy
- B Reasoning
- C Decoding
- D Cycling

**Answer:** D

#### Explanation:

Except **cycling** remaining all are subjects.

#### Question 44

- A Nephrology
- B Astrology
- C Pathology
- D Entomology

**Answer:** B

#### Explanation:

Except "astrology" remaining all are related to study of animals.

∴ The correct answer is option B.

#### Question 45

- A accdff
- B prrsu

C mnnoqq

D egg hij

**Answer:** C

**Explanation:**

Except option C, all other options have difference of the 1 letter in between first and 2nd letter.

∴ The correct answer is option C.

**Question 46**

A OQTX

B JMNQ

C EGJN

D XZCG

**Answer:** B

**Explanation:**

In OQTX,

$$O + 2 = Q + 3 = T + 4 = X$$

In JMNQ,

$$J + 3 = M + 1 = N + 3 = Q$$

In EGJN,

$$E + 2 = G + 3 = J + 4 = N$$

In XZCG,

$$X + 2 = Z + 3 = C + 4 = G$$

∴ The correct answer is option B.

**Question 47**

A NMOK

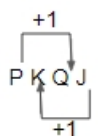
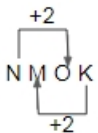
B PKQJ

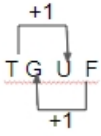
C RLSK

D TGUF

**Answer:** A

**Explanation:**





MNOK is odd.

∴ The correct answer is option A.

**Question 48**

- A 997
- B 976
- C 778
- D 895

**Answer: A**

**Explanation:**

$$997 \rightarrow 9 + 9 + 7 = 25$$

$$976 \rightarrow 9 + 7 + 6 = 22$$

$$778 \rightarrow 7 + 7 + 8 = 22$$

$$895 \rightarrow 8 + 9 + 5 = 22$$

∴ The correct answer is option A.

**Question 49**

- A 8
- B 87
- C 111
- D 96

**Answer: A**

**Explanation:**

$$87 \rightarrow 8 + 7 = 15$$

$$111 \rightarrow 1 + 1 + 1 = 3$$

$$96 \rightarrow 9 + 6 = 15$$

The sum of the digits of 87, 111 and 96 is divisible by 3.

∴ The correct answer is option A.

**Instructions**

For the following questions answer them individually

**Question 50**

Pick the odd number from the sequence below :

2, 3, 6, 7, 11, 15, 30

- A 7

B 11

C 6

D 30

Answer: B

**Explanation:**

In first number: The number is first added to same number.

In second number: The answer should added by 1.

$$1 + 1 = 2$$

$$2 + 1 = 3$$

$$3 + 3 = 6$$

$$6 + 1 = 7$$

$$7 + 7 = 14$$

$$14 + 1 = 15$$

$$15 + 15 = 30$$

So, 11 is odd number.

## General Awareness

**Instructions**

For the following questions answer them individually

**Question 51**

The storage form of glucose is

A Insulin

B Glycogen

C Glucagon

D Fructose

Answer: B

**Question 52**

Thigmotropism is the response of the plant to

A Gravity

B Water

C Light

D Contact

Answer: D

**Question 53**

Root hairs are produced from

- A trichotnes
- B trichiblast
- C rhizodermis
- D epidermis

**Answer: C**

**Question 54**

**Second Ozone hole was detected over**

- A Antartica
- B Artica
- C Sweden
- D Northern hemisphere

**Answer: A**

**Question 55**

**Glycolysis during fermentation results in not gain of**

- A 1 ATP
- B 2 ATPs
- C 3 ATPs
- D 4 ATPs

**Answer: B**

**Question 56**

**The disadvantage of self-pollination is**

- A seeds are less in number
- B no dependence of pollinating agents
- C mechanism is too simple
- D no wastage of pollengrains

**Answer: A**

**Question 57**

**By increasing the intensity of incident light on the surface, the photo electric current**

- A increases
- B decreases
- C unchanged

D increases initially and then decreases

Answer: D

Question 58

The Phenomenon of light splitting into seven distinct colours when it passes through prism is

A diffraction

B polarisation

C dispersion

D reflection

Answer: C

Question 59

A block placed on an inclined plane of slope angle  $\theta$  slides down with a constant speed. The coefficient of kinetic friction is equal to

A  $\sin \theta$

B  $\cos \theta$

C  $\tan \theta$

D  $\cot \theta$

Answer: C

Question 60

A plumb bob is hanging from the ceiling of a car. If the car moves with an acceleration  $a$ , the angle made by the string with the vertical is

A  $\sin^{-1} \left( \frac{a}{g} \right)$

B  $\sin^{-1} \left( \frac{g}{a} \right)$

C  $\tan^{-1} \left( \frac{a}{g} \right)$

D  $\tan^{-1} \left( \frac{g}{a} \right)$

Answer: C

Question 61

Who is called the 'Father of Indian Cinema'?

A Raj Kapoor

B Dilip kumar

C Mehboob Khan

D Dada Saheb Phalke

Answer: D



**Question 62**

**Name the first Indian woman to climb Mount Everest**

- A Santosh Yadav
- B Bachhendri Pal
- C Rita Farai
- D Leela Seth

**Answer: B**

**Question 63**

**Which IPL Team won the eighth edition of the Indian Premier League?**

- A Mumbai Indians
- B Chennai Super Kings
- C Delhi Daredevils
- D Kolkata Knight Riders

**Answer: A**

**Question 64**

**Nehru Trophy is associated with which sport in India?**

- A Football
- B Cricket
- C Hockey
- D None of the above

**Answer: C**

**Question 65**

**Aung San Suu Kyi, a prodemocracy campaigner, is from which of the following countries?**

- A Nepal
- B Myanmar
- C Bangladesh
- D China

**Answer: B**

**Question 66**

**Usain Bolt is famous as**

- A an astronaut
- B a boxer

C an athlete

D a cricketer

**Answer: C**

**Question 67**

Which of the following is the morning 'Ragg' in music ?

A Sohini

B Bhairavi

C Sarang

D Malhaar

**Answer: B**

**Question 68**

When was the first All India Postage Stamp issued?

A 1854

B 1858

C 1850

D 1856

**Answer: A**

**Question 69**

In which country was paper currency first used?

A India

B Egypt

C China

D Japan

**Answer: C**

**Question 70**

The murder of Archduke Ferdinand and his wife triggered off which of the following events?

A Crimean War

B Balkan War

C First World War

D Second World War

**Answer: B**

**Question 71**

**.com represents**

- A communication domain
- B Educational domain
- C Commercial domain
- D Government domain

**Answer: A**

**Question 72**

**IKE stands for**

- A Internet Key Exchange
- B Information Key Execution
- C Information Key Exchange
- D Infrastructure Key Encryption

**Answer: A**

**Question 73**

**When salt is added to water, the boiling point of water is**

- A Lowered
- B Unaffected
- C Increased
- D Constant

**Answer: C**

**Question 74**

**The gas dissolved in water that makes it acidic**

- A hydrogen
- B nitrogen
- C carbon dioxide
- D ammonia

**Answer: C**

**Question 75**

**The hydrogen ion concentration of a solution is measured using a**

- A thermometer
- B pH meter

C hydrometer

D barometer

Answer: B

**Question 76**

**Non-bonding valence electrons are**

A Involved only in covalent bond formation

B Involved only in ionic bond formation

C Involved in both ionic and covalent bond formation

D Not involved in covalent bond formation

Answer: C

**Question 77**

**When is the World Earth Day celebrated?**

A 4 April

B 22 April

C 1 May

D 23 March

Answer: B

**Question 78**

**World "No Tobacco Day" was observed globally on**

A 31 May

B 2 June

C 15 June

D 20 June

Answer: A

**Question 79**

**The greenhouse gases, otherwise called radioactively active gases include**

A Carbon dioxide

B  $CH_4$

C  $N_2O$

D All of these

Answer: D

**Question 80**

The most serious environmental effect posed by hazardous wastes is

- A air pollution
- B contamination of ground water
- C increased use of land of landfills
- D None of the above

**Answer: B**

**Question 81**

Which Delhi Sultan resorted to price control and rationing?

- A Balban
- B Muhammad-bin-Tughluq
- C Bahlul Lodi
- D Alaud-din-Khilji

**Answer: D**

**Question 82**

The Maratha ruler Shivaji ruled his kingdom with the help of a Council of Ministers called

- A Ashtapradan
- B Ashtadigajas
- C Navarathnas
- D Mantriparishad

**Answer: A**

**Question 83**

Ms. Florence Nightingale was associated with

- A Seven years War
- B Thirty Years War
- C Crimean War
- D Hundred Years War

**Answer: C**

**Question 84**

Who among the following Gupta emperor was known as 'Vikramaditya'?

- A Samudra Gupta
- B Kumar Gupta

C Chandra Gupta I

D Chandra Gupta II

**Answer: D**

**Question 85**

The finely painted cotton fabric made in Golkanda was called

A Calico

B Muslin

C Kalamkari

D Palampore

**Answer: C**

**Question 86**

Which of the best type of cotton grown in the world?

A Long staple

B Medium staple

C Short staple

D Thick staple

**Answer: A**

**Question 87**

Which one of the following is first multipurpose project constructed in India?

A Rihand

B Thungabadra

C Farraka Barrage

D Damodar

**Answer: D**

**Question 88**

What is the symbol of (WWF) World Wildlife Fund?

A Red Panda

B Rhododendron

C Bear

D White Tiger

**Answer: A**

**Question 89**

**Market Gardening comes in this category**

- A Horticulture
- B Monoculture
- C Subsistence farming
- D Sericulture

**Answer: A**

**Question 90**

**A deep or french in the ocean floor is called**

- A Ridges
- B Crest
- C Trough
- D Continental Shelf

**Answer: B**

**Question 91**

**Name the co-operative society that provides housing loan facility at reasonable rates**

- A Credit co-operatives
- B Housing co-operatives
- C Consumer co-operatives
- D Producer's co-operatives

**Answer: B**

**Question 92**

**Name the biggest employer in India**

- A Steel Authority of India Ltd (SAIL)
- B Post & Telecom Department
- C Food Corporation of India (FCI)
- D Indian Railways

**Answer: D**

**Question 93**

**Which of the following is an allied activity of agriculture**

- A Livestock
- B Small Scale Industry

C Money lending

D Insurance

**Answer: A**

**Question 94**

**Disguised unemployment means**

A Working as Self-Employed

B Not working whole day

C Marginal Productivity is zero

D Production is less

**Answer: C**

**Question 95**

**Cartel is a part of**

A Monopoly

B Oligopoly

C Perfect competition

D Monopolistic competition

**Answer: B**

**Question 96**

**In the presidential system of government, the President is**

A Head of the state

B Head of the state and Head of the Government

C Head of the Government

D Head of the Executive

**Answer: B**

**Question 97**

**The Chief Election Commissioner of India is appointed by**

A Chief Justice of India

B Prime Minister

C President

D Parliament

**Answer: C**



**Question 98**

**The Election Commission of India is**

- A An independent body
- B Quasi-judicial body
- C Quasi-legislative body
- D Executive body

**Answer: A**

**Question 99**

**Articles 23 and 24 of the Indian Constitution deal with**

- A Right against Exploitation
- B Right to Freedom
- C Right to Freedom of Religion
- D Right to Education

**Answer: A**

**Question 100**

**Which of the following ideologies aims at the spiritualization of politics?**

- A Marxism
- B Socialism
- C Sarvodaya
- D Pularism

**Answer: C**

## **General Engineering (Civil & Structural)**

**Instructions**

For the following questions answer them individually

**Question 101**

**The thickness of the flange of a tee beam of a ribbed slab is assumed as:**

- A half the thickness of the slab
- B thickness of the concrete topping
- C depth of the rib
- D width of the rib

**Answer: C**

**Question 102**

**Coefficient of wind resistance of a circular surface is:**

- A  $\frac{2}{3}$
- B  $\frac{3}{2}$
- C  $\frac{1}{3}$
- D  $\frac{1}{2}$

**Answer: D**

**Question 103**

**Total number of elastic constants of an isotropic material**

- A 2
- B 3
- C 4
- D 5

**Answer: A**

**Question 104**

**The stiffness of a spring is:**

- A load per coil of the spring
- B load required to produce unit deflection
- C load required to compress the spring up to shearing proportional limit
- D the load required for breaking the spring

**Answer: B**

**Question 105**

**Creep of a material is:**

- A not being ductile
- B to become brittle
- C disappearance of deformation on removal load
- D continued deformation with time under sustained loading

**Answer: D**

**Question 106**

**A propped cantilever is indeterminate externally of:**

- A second degree

- B fourth degree
- C first degree
- D third degree

**Answer: C**

**Question 107**

**Which of the following is a relatively ductile material?**

- A High carbon steel
- B Bronze
- C Mild steel
- D Cast iron

**Answer: C**

**Question 108**

**A beam is supported over three rollers lying in same plane. The beam is stable for:**

- A loading with no component perpendicular to the direction of beam
- B only when no load except self weight acts
- C loading with no component in the direction of the beam
- D any general loading

**Answer: C**

**Question 109**

**The resistance of an aggregate to the effect of hydration of cement and weather is called:**

- A impact value
- B soundness
- C crushing strength
- D abrasion resistance

**Answer: B**

**Question 110**

**Under which conditions highest water cement ratio is used?**

- A Heavy sections such as piers foundations ets, exposed to alternate wetting and drying
- B Heavy sections such as piers foundations ets, protected against rain and frost
- C Hydraulic structure exposed to rain and snow
- D Light structural members exposed to alternate wetting and drying

**Answer: A**

**Question 111**

**Snoweem is:**

- A coloured cement
- B powdered lime
- C chalk powder
- D mixture of chalk powder and lime

**Answer: A**

**Question 112**

**In a singly reinforced beam, if the concrete is stressed to its allowable limit earlier than steel, the section is said to be:**

- A economical section
- B over reinforced section
- C balanced section
- D under reinforced section

**Answer: B**

**Question 113**

**In order to determine the allowable stress in axial compression, Indian Standard Institution has adopted:**

- A Rankine's formula
- B Secant formula
- C Euler's formula
- D Perry-Robertson formula

**Answer: A**

**Question 114**

**The sag tie in a truss is mainly used to reduce:**

- A moment and deflection
- B tension
- C weight of the truss
- D compression

**Answer: C**

**Question 115**

**A simply supported beam carrying uniformly distributed load will be safe in deflection if the ratio of its span and depth is:**

- A  $< 24$
- B  $> 19$

C < 19

D > 24

Answer: C

**Question 116**

The actual thickness of a butt weld when compared with the thickness of the plate is:

A less

B more or less

C more

D equal

Answer: A

**Question 117**

The fillet weld whose axis is parallel to the direction of the applied load is known as:

A side fillet weld

B end fillet weld

C flat fillet weld

D diagonal fillet weld

Answer: A

**Question 118**

Tacking rivets in compression plates exposed to weather have a pitch not exceeding 200 mm or:

A 8 times the thickness of outside plate

B 16 times the thickness of outside plate

C 24 times the thickness of outside plate

D 32 times the thickness of outside plate

Answer: D

**Question 119**

Depth of the section of an upper column is much smaller than the lower column:

A bearing plates are provided with column splice

B filler and bearing plates are provided with column splice

C filler plates are provided with column splice

D neither filler nor bearing plates are provided with column splice

Answer: B

**Question 120**

**Web crippling in beams generally occurs at the points where:**

- A concentrated loads act
- B bending moment is maximum
- C shear force is maximum
- D deflection is maximum

**Answer: A**

**Question 121**

**The minimum thickness of the plates used in pressed steel**

- A 4 mm
- B 5 mm
- C 6 mm
- D 3 mm

**Answer: D**

**Question 122**

**A column splice is used to increase:**

- A the strength of the column
- B the rigidity of the column
- C the cross-sectional area of the column
- D the length of the column

**Answer: D**

**Question 123**

**Percentage increase of carbon in steel, decrease its:**

- A hardness
- B ductility
- C strength
- D brittleness

**Answer: B**

**Question 124**

**The process of providing smooth face and regular face to stones is known as:**

- A quarrying
- B seasoning

C pitching

D dressing

Answer: D

**Question 125**

The bulking of sand occurs due to:

A Air in voids

B Moisture in voids

C Surface tension

D Capillary action

Answer: B

**Question 126**

The compressive strength of common building bricks should not be less than:

A  $3.5N/mm^2$

B  $5.5N/mm^2$

C  $7.5N/mm^2$

D  $10.5N/mm^2$

Answer: B

**Question 127**

The natural bedding plane of stones and the direction of pressure in stone masonry is:

A normal

B parallel

C at  $30^\circ$

D at  $45^\circ$

Answer: A

**Question 128**

Following stone is suitable for damp-proofing:

A Slate

B Marble

C Laterite

D Granite

Answer: A

**Question 129**

The number of standard bricks in one cubic metre of brick masonry is:

- A 300
- B 500
- C 700
- D 1000

**Answer: B**

**Question 130**

The resistance of a material to penetration is:

- A Toughness
- B Hardness
- C Fatigue
- D Roughness

**Answer: B**

**Question 131**

The standard size of a masonry brick is:

- A 18 cm × 8 cm × 8 cm
- B 18 cm × 9 cm × 9 cm
- C 19 cm × 9 cm × 9 cm
- D 19 cm × 8 cm × 8 cm

**Answer: C**

**Question 132**

White cement should have least percentage of:

- A Aluminium oxide
- B Iron oxide
- C Silica
- D Magnesium oxide

**Answer: B**

**Question 133**

Turpentine oil is used in paint as a:

- A Base
- B Carrier



C Drier

D Thinner

Answer: D

**Question 134**

Connecting pipe in mm for septic tank should not be less than:

A 150

B 100

C 50

D 25

Answer: B

**Question 135**

Total depreciation during first five years of a cement concrete structure is:

A zero percent

B 0.5 percent

C 1 percent

D 2 percent

Answer: A

**Question 136**

Estimate for electrical wiring is prepared on the basis of:

A Voltage

B Power

C Number of appliances

D Number of points

Answer: D

**Question 137**

Which of the following tax generally not applicable to residential building is:

A Municipal tax

B Property tax

C Sales tax

D Wealth tax

Answer: C

**Question 138**

The value of demolished material is known as:

- A Scrap value
- B Salvage value
- C Resultant value
- D Material value

**Answer: A**

**Question 139**

Slump test for concrete is carried out to determine:

- A Strength
- B Durability
- C Workability
- D Water content

**Answer: C**

**Question 140**

The leaching action in concrete is the example of:

- A decomposition
- B creeping
- C crystallization
- D chemical reaction

**Answer: D**

**Question 141**

Poisson's ratio of cement concrete is about:

- A 0.28
- B 0.50
- C 0.40
- D 0.15

**Answer: D**

**Question 142**

The span to depth ratio limit is specified in IS: 456-2000 for the reinforced concrete beams, in order to ensure that the:

- A shear failure is avoided
- B tensile crack width is below a limit

- C deflection of the beam is below a limiting value
- D stress in the tension reinforcement is less than the allowable value

Answer: C

**Question 143**

A  $300 \times 300$  mm R.C. column is reinforced with 8 bars, four bars are of 12mm diameter. The diameter of lateral ties is 6 mm. The pitch of lateral ties shall be kept as:

- A 288 mm
- B 160 mm
- C 192 mm
- D 300 mm

Answer: C

**Question 144**

The width of lacing bars in mm is kept:

- A twice the nominal rivet diameter
- B thrice the nominal rivet diameter
- C maximum of the all rounded to nearest 5mm
- D equal to normal rivet diameter

Answer: A

**Question 145**

The bearing stress at bends for limit state method compared to working stress method of design is:

- A 1.5 times more
- B 2.5 times more
- C 2.5 times less
- D 1.5 times less

Answer: A

**Question 146**

The base width of retaining wall of height  $h$  is generally taken as,  $b =$

- A  $0.8h$
- B  $0.95h$
- C  $0.6h$
- D  $0.3h$

Answer: C

**Question 147**

The steel beam of light section placed in plain cement concrete are called:

- A filler joists
- B concrete joists
- C simple joists
- D joists

**Answer: A**

**Question 148**

Partial safety factor on steel stresses is:

- A 1.67
- B 1.15
- C 1.77
- D 1.5

**Answer: B**

**Question 149**

When a load is exerted or transferred from one surface to another in contact, the stress is known as:

- A bearing stress
- B shear stress
- C binding stress
- D direct stress

**Answer: A**

**Question 150**

When R.C.C. footing is not to extend in the plot of the neighbouring house, the type of footing preferred is:

- A cellular flat not footing
- B inverted flat not footing
- C strap footing
- D both (a) and (b)

**Answer: C**

**Question 151**

The construction joints in cement concrete:

- A should not be provided at the corners
- B should be spaced at a distance of 3m apart in case of huge structures

- C should be located where shear force is large
- D should be located where bending moment is large

**Answer: A**

**Question 152**

**The fineness modulus of an aggregate is roughly proportional to:**

- A average size of particles in the aggregate
- B grading of the aggregate
- C specific gravity of the aggregate
- D shape of the aggregate

**Answer: A**

**Question 153**

**The aggregate is said to be flaky when:**

- A its length is equal to 1.8 times its mean dimension
- B its length is equal to its mean dimension
- C its least dimension is equal to its mean dimension
- D its least dimension is three fifth of its mean dimension

**Answer: D**

**Question 154**

**The soundness of cement is tested by:**

- A Vicat's apparatus
- B Le Chatelier's apparatus
- C Compression testing machine
- D Standard briquette test

**Answer: B**

**Question 155**

**In lime concrete, lime is used as:**

- A admixture
- B binding aggregate
- C fine aggregate
- D coarse aggregate

**Answer: B**

**Question 156**

The minimum quantity of cement content needed in one m<sup>3</sup> of a reinforced concrete which is exposed to sea weather conditions is (in kg):

- A 350
- B 200
- C 250
- D 300

**Answer: C**

**Question 157**

Shrinkage in concrete increase its:

- A bond strength
- B compressive strength
- C flexural strength
- D tensile

**Answer: D**

**Question 158**

The strength of concrete mainly depends on:

- A quality of fine aggregate
- B water cement ratio
- C fineness of cement
- D quality of coarse aggregate

**Answer: C**

**Question 159**

Green concrete may be made by adding:

- A iron hydroxide
- B barium manganate
- C iron oxide
- D chromium oxide

**Answer: C**

**Question 160**

Gypsum is added to cement in small quantity to:

- A control initial setting time

- B control final setting time
- C give colour to the cement
- D make cement hydrophobic

Answer: A

**Question 161**

The Indian standard mix design for fly ash and cement concrete recommends water content:

- A to increase by 3% to 5%
- B to reduce by 15%
- C to increase by 15%
- D to reduce by 3% to 5%

Answer: D

**Question 162**

One cubic metre of mild steel weighs about:

- A 1000 kg
- B 3625 kg
- C 7850 kg
- D 12560 kg

Answer: C

**Question 163**

The total length of a cranked bar through a distance (d) at  $45^\circ$  in case of a beam of effective length L, and depth (d) is:

- A  $L + 0.42d$
- B  $L + 2 \times 0.42d$
- C  $L - 0.42d$
- D  $L - 2 \times 0.42d$

Answer: D

**Question 164**

For building project estimate which method is generally used in PWD?

- A Long wall and short wall method
- B Centre line method
- C Crossing method
- D Short wall method

Answer: B

**Question 165**

**An estimate is:**

- A cost of the structure using thumb rules
- B random guess of cost of structure
- C probable cost arrived at before construction
- D actual cost of construction

**Answer: C**

**Question 166**

**The depth of foundation is usually calculated from:**

- A Rankine's formula
- B Newton's formula
- C De Almbert's formula
- D Gutter's formula

**Answer: A**

**Question 167**

**When two points of surveying are mutually invisible the following method of ranging is adopted:**

- A Direct ranging
- B Indirect ranging
- C Horizontal ranging
- D Vertical ranging

**Answer: B**

**Question 168**

**The distance between two brass rings in a surveyor's chain is:**

- A 20 cm
- B 40 cm
- C 75 cm
- D 1 m

**Answer: A**

**Question 169**

**The sum of the interior angles of a closed traverse is equal to:**

- A  $(2n - 4)90^\circ$



- B  $(3n - 4)90^\circ$
- C  $(2n - 4)180^\circ$
- D  $(3n - 4)180^\circ$

Answer: A

**Question 170**

Survey line provided to verify the accuracy of the framework is known as:

- A Tie line
- B Base line
- C Subsidiary line
- D Check line

Answer: D

**Question 171**

The total number of links provided in a Gunter's chain is:

- A 132
- B 100
- C 66
- D 50

Answer: B

**Question 172**

If the fore bearing of a line is observed to be  $AB\ 12^\circ 24'$ , the back bearing of line AB should be:

- A  $102^\circ 24'$
- B  $77^\circ 36'$
- C  $167^\circ 36'$
- D  $192^\circ 24'$

Answer: D

**Question 173**

The direction of a line relative to a given meridian is known as:

- A Angle of line
- B Direction of line
- C Bearing of line
- D Relative meridian

Answer: C

**Question 174**

When compared with chain surveying plane table is:

- A more accurate
- B less accurate
- C not accurate
- D accurate

**Answer: A**

**Question 175**

Number of satellites involved in the orbit for the GPS survey technique:

- A 14
- B 24
- C 34
- D 44

**Answer: A**

**Question 176**

Harbour model are based on the following law:

- A Froude law
- B Reynold's law
- C Stoke's law
- D Euler's law

**Answer: B**

**Question 177**

For stability of floating bodies, the metacentre should be:

- A above the centre of gravity
- B below the centre of gravity
- C above the centre of buoyancy
- D below the centre of buoyancy

**Answer: A**

**Question 178**

A vessel containing water of depth  $h$  is accelerated upward with an acceleration of  $\frac{g}{2}$ . The pressure at the bottom of the vessel is:

- A  $\gamma h$

- B  $(\gamma h)/2$
- C  $2\gamma h$
- D  $(3\gamma h)/2$

Answer: D

**Question 179**

The most desirable alignment of an irrigation canal is along:

- A the contour line
- B the ridge line
- C normal to contour line
- D the valley line

Answer: B

**Question 180**

Clay is an example of:

- A aquifer
- B aquitard
- C aquifuge
- D aquiclude

Answer: B

**Question 181**

Aggregate impact value indicates which of the following properties of aggregates?

- A Durability
- B Toughness
- C Hardness
- D Strength

Answer: B

**Question 182**

The shape of the STOP sign according to IRC : 67-2001 is:

- A Circular
- B Triangular
- C Rectangular
- D Octagonal

Answer: D

**Question 183**

Pollution potential of domestic sewage generated in a town and its industrial sewage can be compared with reference to:

- A their BOD value
- B population equivalent
- C their volume
- D the relative density

**Answer: B**

**Question 184**

The valve which protects the water meter from the damages of water hammer:

- A pressure relief valve
- B stop cock
- C reflux valve
- D water hammer valve

**Answer: A**

**Question 185**

In Brinell Hardness test, the type of indenter used is:

- A hard steel ball
- B diamond cone
- C mild steel ball
- D hard steel cone

**Answer: C**

**Question 186**

The intensity of direct longitudinal stress in the cross-section at any point distant  $r$  from the neutral axis, is proportional to:

- A  $\frac{1}{r^2}$
- B  $\frac{1}{r}$
- C  $r$
- D  $r^2$

**Answer: A**

**Question 187**

A column is known as medium size if its slenderness ratio is between:

- A 160 and 180

- B 20 and 32
- C 32 and 120
- D 120 and 160

**Answer: C**

**Question 188**

**An arch may be subjected to:**

- A shear force and thrust
- B bending moment and shear force
- C shear and axial force
- D bending moment and axial force

**Answer: A**

**Question 189**

**Mean sea level (MSL) adopted by survey of India for reference, is located at:**

- A Kolkata
- B Mumbai
- C Karachi
- D Delhi

**Answer: B**

**Question 190**

**Black cotton soil is not suitable for foundation because of its:**

- A low bearing capacity
- B cohesive particles
- C swelling and shrinkage
- D black colour

**Answer: C**

**Question 191**

**Optimum moisture content is obtained from:**

- A triaxial test
- B standard proctor test
- C consolidation test
- D hydrometer test

**Answer: B**

**Question 192**

The effective size of particles of soil is denoted by:

- A  $D_{10}$
- B  $D_{20}$
- C  $D_{30}$
- D  $D_{60}$

**Answer: A**

**Question 193**

When the plasticity index of a soil is zero, the soil is:

- A Clay
- B Silt
- C Sand
- D Silty sand

**Answer: C**

**Question 194**

Francis turbine is:

- A a reaction turbine
- B an impulse turbine
- C a tangential flow impulse turbine
- D an axial flow turbine

**Answer: A**

**Question 195**

Most economical circular channel gives maximum discharge while:

- A flow depth = 0.95 diameter
- B flow velocity high
- C area of flow is full
- D wetted perimeter is least

**Answer: A**

**Question 196**

Two pipe systems are said to be equivalent when:

- A they carry same discharge

- B they are satisfying Bernoulli's theorem
- C both have same head loss and discharge values
- D they are of same length and having same head loss

Answer: C

**Question 197**

The specific speed of a pump is defined as the speed of a unit of such a size that it discharges:

- A unit discharge at unit power
- B unit work at unit head loss
- C unit discharge at unit head
- D unit volume at unit time

Answer: C

**Question 198**

The dimensions of Chezy's C is:

- A non-dimensional
- B  $\frac{L}{T}$
- C  $LT$
- D  $\left[\frac{L}{T^2}\right]^{\frac{1}{2}}$

Answer: D

**Question 199**

The velocity distribution for turbulent flow through circular pipes is:

- A uniform
- B linear
- C parabolic
- D logarithmic

Answer: D

**Question 200**

With increase in temperature the viscosity of air and water varies as:

- A viscosity of air increases and viscosity of water decreases
- B viscosity of air increases and viscosity of water increases
- C viscosity of air decreases and viscosity of water decreases
- D viscosity of air decreases and viscosity of water increases

Answer: A

