



SSC JE Civil Engineering 22nd Jan 2018 Shift-1

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General Awareness

Instructions

For the following questions answer them individually

Question 1

Preliminary expenses are the examples of

- A Capital expenditure
- B Capital gain
- C revenue expenditure
- D deferred revenue expenditure

Answer: A

Question 2

Which economic activity cannot be included in the tertiary sector?

- A Working in a call-centre
- B Tuition occupation
- C Bee-keeping
- D Banking

Answer: C

Question 3

Which of the following statement is true for the Public Sector Unit?

- A Most of assets is owned by a group of people
- B Most of assets is owned by big companies
- C Most of assets is owned by government
- D Most of assets is owned by an individual

Answer: C

Question 4

The percentage of India's population in the total population of the world as per 2011 census is:

- A 17.5%
- B 18.01%
- C 19.35%
- D 20.25%

Answer: A

Question 5

Which of the following five year plan of India recognized human development as the core of development efforts?

- A Eighth five year plan
- B Ninth five year plan
- C Tenth five year plan
- D Eleventh five year plan

Answer: A

Question 6

Which of the following thinker is associated with "the concept of political sovereignty"?

- A Maclver
- B Socrates
- C Rousseau
- D Plato

Answer: C

Question 7

Who said, "A good citizen makes a good state and a bad citizen makes a bad state"?

- A Plato
- B Aristotle
- C G. B. Shaw
- D Rousseau

Answer: B

Question 8

Panchayat Samiti at the block level in India is a/an _____.

- A Advisory Body
- B Coordinating Authority only
- C Supervisory Authority only
- D Administrative Authority

Answer: D

Question 9

According to Indian Constitution, who decides the salary of members of Parliament?

- A Union Council of Ministers
- B Parliament
- C Supreme Court

D President of India

Answer: B

Question 10

Which one of the following is not correctly matched?

A Eighth Schedule : Languages

B Second Schedule : Form of Oath of office

C Fourth Schedule : Allocation of seats in Rajya Sabha

D Tenth Schedule : Defection related provisions

Answer: B

Question 11

When did the Chinese traveler 'Sung Yun' come to India?

A 510 AD

B 518 AD

C 525 AD

D 528 AD

Answer: B

Question 12

Which among the following state 'Odantpuri' education center was situated?

A Bengal

B Gujarat

C Bihar

D Tamil Nadu

Answer: C

Question 13

Who was the founder of Bahmani Kingdom?

A Hasan Gangu

B Firoz Shah

C Mahmud Gawan

D Asaf Khan

Answer: A

Question 14

During whose rule in India did the Khilafat movement begin?

- A Lord Mountbatten
- B Lord Dalhousie
- C Lord Chelmsford
- D Lord Curzon

Answer: C

Question 15

Who among the following was the founder of the Arya Mahila Samaj in the early 1880s?

- A Swami Dayananda Saraswati
- B Swami Vivekananda
- C Ramabai Ranade
- D Pandita Ramabai

Answer: D

Question 16

Dasht-e Kavir Desert is located in which country?

- A Iran
- B Saudi Arab
- C Iraq
- D Sudan

Answer: C

Question 17

Which of the following layers is called "Barysphere"?

- A Earth's most internal layer
- B Earth's intermediate layer
- C Earth's topmost layer
- D Lowest part of the atmosphere where climate changes occur

Answer: A

Question 18

The Blue Nile river originates from which of the following lakes?

- A Lake Victoria
- B Lake Tana
- C Lake Edward

D Lake Albert

Answer: B

Question 19

Which of the following states of India has the largest percentage of geographical area under forest as per the report of the Forest survey of India?

A Manipur

B Meghalaya

C Mizoram

D Nagaland

Answer: C

Question 20

At which of the following towns the Alaknanda and the Bhagirathi combines to form River Ganga?

A Haridwar

B Rishikesh

C Rudraprayag

D Devprayag

Answer: D

Question 21

'Nirvana Fund' was set up by NSDC for financial help to

A Entrepreneurs from the bottom rungs of society

B Displaced Kashmiri Pandits

C Old age people having no means of livelihood

D Ventures of selected candidates trained under PMKVY but did not get any job.

Answer: D

Question 22

'Nakul Swasthya Patra' is a scheme by the Government for which among the following purposes?

A Wellness of animals

B Wellness of animal owners

C Taking care of lactating mother in the rural areas

D Taking care of newborn babies in the rural areas

Answer: A

Question 23

Which mine of India was in the news recently for becoming the country's first iron-ore mine to have a solar plant for reducing carbon footprint?

- A Talchar mine
- B Koraput mine
- C Noamundi mine
- D Ratnagiri mine

Answer: C

Question 24

Where will the Summer Olympics be held in 2028?

- A Sydney
- B Paris
- C Los Angeles
- D Copenhagen

Answer: C

Question 25

- Which country has won the 2017 Davis Cup Tennis Tournament?

- A Switzerland
- B Serbia
- C France
- D Belarus

Answer: C

Question 26

"You are Unique" is written by

- A Dr. A. P. J. Abdul Kalam
- B Khushwant Singh
- C Taslima Nasrin
- D Arvind Adiga

Answer: A

Question 27

The third Indian Council for Cultural Relations (ICCR) Distinguished Indologist Award for the year 2017 was awarded to Japanese professor

- A Hiroshi Marui

- B Shimamaru Marui
- C Nagasaki Marui
- D Toyota Marui

Answer: A

Question 28

Which of the following city has become first Indian city to get UNESCO's world heritage city tag?

- A Jaipur
- B Ahmedabad
- C Gandhi Nagar
- D Allahabad

Answer: B

Question 29

In June 2017, which of the following countries have signed a protocol of cooperation in the field of archive?

- A India and Israel
- B India and Portugal
- C India and Netherland
- D India and Iran

Answer: B

Question 30

India has signed an agreement to provide USD 318 million as line of credit for developing railway sector of which of the following country?

- A Bangladesh
- B Nepal
- C China
- D Sri Lanka

Answer: D

Question 31

Dot Matrix is a type of

- A Tape
- B Disk
- C Printer
- D Bus

Answer: C

Question 32

The secondary storage devices can only store data but they cannot perform

- A Arithmetic operations
- B Logic operations
- C Fetch operations
- D All options are correct

Answer: D

Question 33

In the modern periodic table metals, metalloids and non metals are found in which block?

- A s-Block
- B p-block
- C d-block
- D f-block

Answer: B

Question 34

Cinnabar is ore of which of the following?

- A Magnesium
- B Aluminium
- C Mercury
- D Iron

Answer: C

Question 35

In which of the following mirror size of image formed is always equal to the size of object?

- A Convex mirror
- B Concave mirror
- C Plane mirror
- D Both convex and concave mirror

Answer: C

Question 36

Mass of a hydrogen atom is how many time the mass of an electron?

- A 1000

- B 8000
- C 1837
- D 5000

Answer: C

Question 37

Which of the following are Fabrics that may contain polyester?

- I. Polycot
- II. Polywool
- III. Terrycot

- A Only I and II
- B Only I and III
- C Only II and III
- D All I, II and III

Answer: D

Question 38

Which of the following term does NOT represent electrical power in circuit?

- A I^2R
- B IR^2
- C VI
- D $\frac{V^2}{R}$

Answer: B

Question 39

A positively charged particle projected towards west is deflected towards north by a magnetic field. What is the direction of magnetic field?

- A toward south
- B toward east
- C downward
- D upward

Answer: D

Question 40

Which of the following is NOT positively charged?

- A Alpha particle
- B Proton

C Helium nucleus

D Electron

Answer: D

Question 41

Which is a water soluble Vitamin?

A Vitamin A

B Vitamin C

C Vitamin D

D Vitamin K

Answer: B

Question 42

Match the items given in column(A) with those in column(B).

Column - A

- I. Frog
- II. Leaves
- III. Earthworm

Column - B

- 1. Skin
- 2. Stomata
- 3. Lungs and skin

A I-3, II-2, III-1

B I-1, II-2, III-3

C I-3, II-1, III-2

D I-2, II-1, III-3

Answer: A

Question 43

How many number of chambers are there in human heart?

A Two

B Three

C Four

D Five

Answer: D

Question 44

Which of the following is NOT present in a matured stomata?

A Plasmodesma

B Chloroplast

C Cell wall

D Vacuole

Answer: A

Question 45

What is/are the cause(s) of arise hypermetropia?

- A Excessive curvature of the eye lens
- B Elongation of the eye ball
- C Focal length of the eye lens is too long.
- D No option is correct

Answer: C

Question 46

Antibiotics are useful for which type of infections?

- A Only bacteria
- B Only virus
- C Both bacteria and virus
- D Neither bacteria nor virus

Answer: A

Question 47

Which one of the following is NOT responsible for water shortage?

- A Rapid growth of industries
- B Increasing population
- C Forestation
- D Mismanagement of water resources

Answer: C

Question 48

Which gas is major contributor to greenhouse effect?

- A Carbon dioxide
- B Chlorofluorocarbon
- C Sulphur dioxide
- D Nitrogen dioxide

Answer: A

Question 49

Which of the following is NOT a major problem in development of resources?

- A Depletion of resources for satisfying the greed of few individuals
- B Accumulation of resources in few hands.
- C An equitable distribution of resources.
- D Indiscriminate exploitation of resources

Answer: D

Question 50

Which of the following is NOT man made ecosystem?

- A Orchards
- B Home aquarium
- C Botanical gardens
- D Grassland

Answer: D

General Intelligence and Reasoning

Instructions

For the following questions answer them individually

Question 51

In the following question, select the related word pair from the given alternatives.

Rain : Clouds :: ? : ?

- A Rice : Food
- B Grey : Colour
- C Heat : Sun
- D Snow : Mountains

Answer: C

Question 52

In the following question, select the related word from the given alternatives.

Cactus : Plant :: Rice : ?

- A Basmati
- B Crop
- C White
- D Rabi

Answer: B

Question 53

In the following question, select the related word from the given alternatives.

Pink : Colour :: Eagle : ?

- A Black
- B Symbol
- C Bird
- D Sky

Answer: C

Question 54

In the following question, select the related letter pair from the given alternatives.

TOM : NIG :: ? : ?

- A EAT : YUN
- B EAT : X XM
- C FAT : LMV
- D EAT : ZXC

Answer: A

Question 55

In the following question, select the related letters from the given alternatives.

LERI : PJVN :: MONT : ?

- A WRTY
- B QTRY
- C RITY
- D RQYB

Answer: B

Question 56

In the following question, select the related letters from the given alternatives.

SAT : WEX :: MET : ?

- A AQI
- B IYX
- C FHY
- D QIX

Answer: D

Question 57

In the following question, select the related number from the given alternatives.

43 : 7 :: 23 : ?

- A 6

- B 4
C 7
D 5

Answer: D

Question 58

In the following question, select the related number from the given alternatives.

38 : 53 :: 53 : ?

- A 72
B 68
C 79
D 87

Answer: B

Question 59

In the following question, select the related number from the given alternatives.

9 : 81 :: 11 : ?

- A 78
B 93
C 121
D 146

Answer: C

Question 60

In the following question, select the odd word from the given alternatives.

- A Goggle
B Purse
C Accessories
D Belt

Answer: C

Question 61

In the following question, select the odd word from the given alternatives.

- A Grapes
B Guava
C Cauliflower
D Orange

Answer: C

Question 62

In the following question, select the odd word from the given alternatives.

- A Sparrow
- B Rat
- C Ostrich
- D Parrot

Answer: B

Question 63

In the following question, select the odd letters from the given alternatives.

- A GCXTO
- B KGBXS
- C RNIEX
- D QMHDY

Answer: C

Question 64

In the following question, select the odd letters from the given alternatives.

- A SOKG
- B AWSO
- C RNJF
- D CYTP

Answer: D

Question 65

In the following question, select the odd letters from the given alternatives.

- A KNQ
- B DGJ
- C WZB
- D TWZ

Answer: C

Question 66

In the following question, select the odd letters from the given alternatives.

- A 7 - 11

B 12 - 16

C 14 - 18

D 9 - 15

Answer: D

Question 67

In the following question, select the odd letters from the given alternatives.

A 2 - 4

B 3 - 9

C 4 - 18

D 5 - 25

Answer: C

Question 68

In the following question, select the odd letters from the given alternatives.

A 76 - 42

B 92 - 20

C 73 - 21

D 93 - 27

Answer: B

Question 69

Arrange the given words in the sequence in which they occur in the dictionary.

1. Flagrant
2. Flavour
3. Flatter
4. Flick
5. Flawed

A 13254

B 31254

C 23541

D 32541

Answer: A

Question 70

According to dictionary, which of the following word will come at THIRD position?

1. Heritage
2. Helpful
3. Hectic
4. Heroic
5. Heroism

- A Hectic
- B Heritage
- C Heroic
- D Helpful

Answer: B

Question 71

From the given alternatives, according to dictionary, which word will come at LAST position?

- A Juvenile
- B Justify
- C Judge
- D Justice

Answer: A

Question 72

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
F, M, T, ?, H, O

- A B
- B C
- C A
- D D

Answer: C

Question 73

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
ROK, LIE, FCY, ZWS, ?

- A LAQ
- B SRV
- C TQM
- D FMQ

Answer: C

Question 74

A series is given with one term missing. Select the correct alternative from the given ones that will complete the series.
FAQ, LGW, RMC, ?, DYO

- A VIR
- B XSI

C LSI

D MIS

Answer: B

Question 75

In the following question, select the missing number from the given alternatives.

14, 22, 49, 113, 238, ?

A 386

B 532

C 454

D 576

Answer: C

Question 76

In the following question, select the missing number from the given alternatives.

42, 21, 21, 31.5, 63, ?

A 169.75

B 157.5

C 152.5

D 126.75

Answer: B

Question 77

In the following question, select the missing number from the given alternatives.

14, 44, 135, 409, 1232, ?

A 2962

B 3340

C 3702

D 3406

Answer: C

Question 78

E is sitting between D and A, B is to the right of A, C is at one of the ends and C and D are sitting next to each other. Who is sitting third?

A D

B A

C B

D E

Answer: D

Question 79

Showing a photograph of a married couple B said that the gentleman in it was his father's father and A said that the lady in it was her mother. How is A related to B?

- A A is B's mother's sister
- B A is B's sister
- C A is B's Father's sister
- D A is B's mother

Answer: C

Question 80

From the given alternative words select the word which cannot be formed using the letters of the given word.
MERCANTILE

- A truce
- B learn
- C trace
- D claim

Answer: A

Question 81

If OLYMPUS is coded as MJWKNSQ, then how will TEN be coded as?

- A RCL
- B GVM
- C SDM
- D UFO

Answer: A

Question 82

In a certain code language, 1875 means 'wound the round watch', 6143 means 'a cake is round' and 7321 means 'watch a round wheel'. Find the code for 'watch'.

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

Answer: D

Question 83

In a certain code language, '+' represents '-', '-' represents '×', '×' represents '÷' and '÷' represents '+'. Find out the answer to the following question.

$$96 \times 4 \div 125 + 25 - 5 = ?$$

- A 23
- B 24
- C 50
- D 8

Answer: B

Question 84

If $17 \$ 22 = 4$ and $56 \$ 13 = 7$, then find the value of $71 \$ 25 = ?$

- A 56
- B 96
- C 1
- D 8

Answer: C

Question 85

If $A \$ B$ means A is son of B, $A \# B$ means A is brother of B and if $A * B$ means A is father of B, then what does $X \# Y * Z \$ W$ mean?

- A W is X's brother's wife
- B W is X's wife
- C W is X's mother
- D W is X's sister

Answer: A

Question 86

Select the missing number from the given responses

1	4	2
2	7	10
3	?	12

- A 3
- B 9
- C -3
- D 11

Answer: D

Question 87

Which of the following terms follows the trend of the given list?
OOXXXX, OXOXXXX, OXXOXXX, OXXXOXX, OXXXXOX, _____.

- A XOXXXXO
- B XOXXXXX
- C OXXXOXX
- D OXXXXXO

Answer: D

Question 88

A scientist is studying the behaviour of an ant. The ant picks food and walks 5 cm North, then it turns to its right and walks for another 11 cm. then it turns right and walks 3 cm, then it turns West and walks 15 cm, then finally it turns to its left and walks 2 cm. Where is the ant now with respect to its starting point?

- A 4 cm East
- B 26 cm West
- C 4 cm West
- D 26 cm East

Answer: C

Question 89

Two football players start running from the same point on the ground. Player A runs 10 km East, then turns to his left and runs 13 km. In the meanwhile Player B runs 6 km South, then he runs 3 km East, the he turns to his left and runs 19 km. Where is Player A with respect to Player B?

- A 7 km West
- B 7 km East
- C 13 km East
- D 13 km West

Answer: B

Question 90

In the question two statements are given, followed by two conclusions, I and II. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: Some chapters are physics

Statement II: All science is physics

Conclusion I: All science is chapters

Conclusion II: Some physics is science

- A Only conclusion I follows
- B Only conclusion II follows

- C Both conclusions I and II follow
- D Neither conclusion I nor conclusion II follows

Answer: B

Question 91

In the question three statements are given, followed by three conclusions, I, II and III. You have to consider the statements to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follows from the given statements.

Statement I: All success is victory

Statement II: All luck is success

Statement III: Some hard work is luck

Conclusion I: Some success is hard work

Conclusion II: Some hard work is victory

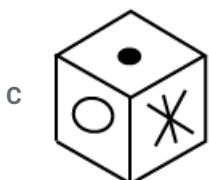
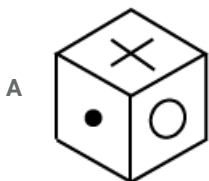
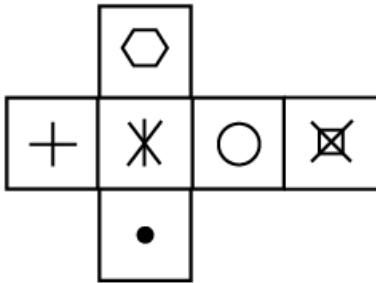
Conclusion III: No victory is luck

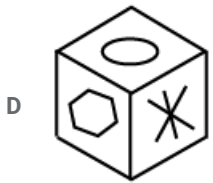
- A Only conclusions I and II follow
- B Only conclusions II and III follow
- C Only conclusions I and III follow
- D All conclusions I, II and III follow

Answer: A

Question 92

Which of the following cube in the answer figure cannot be made based on the unfolded cube in the question figure?

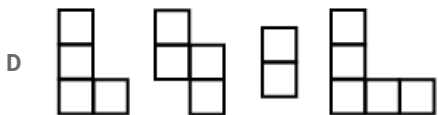
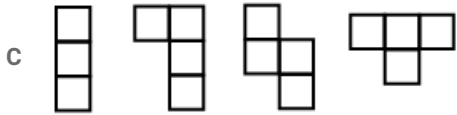
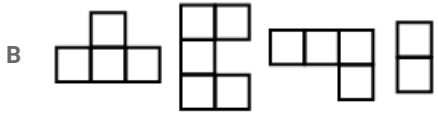
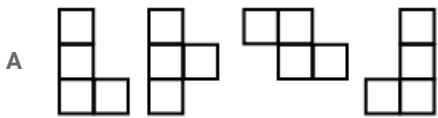
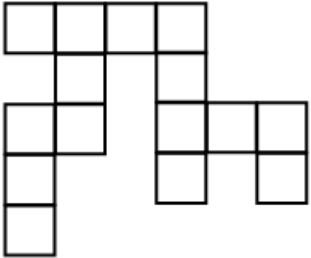




Answer: A

Question 93

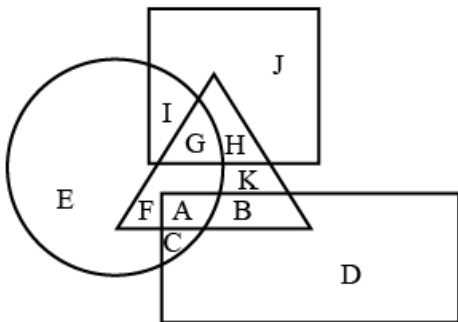
Which of the following answer figure patterns can be combined to make the question figure?



Answer: B

Question 94

In the following figure, square represents Professors, triangle represents Social Workers. circle represents Dieticians and rectangle represents Men. Which set of letters represents Dieticians who are not men?



A EFGI

B BDKHJ

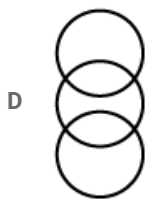
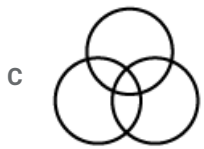
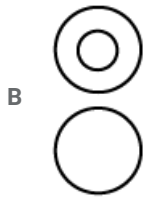
C IGAC

D DEJI

Answer: A

Question 95

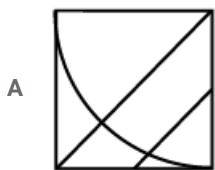
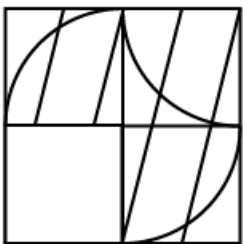
Which of the following Venn Diagram represents the relationship between Butterflies, Animals and Insects?

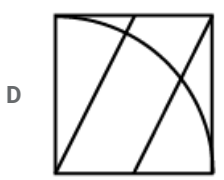
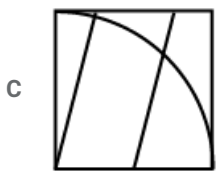
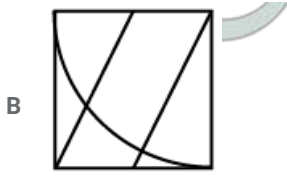


Answer: A

Question 96

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

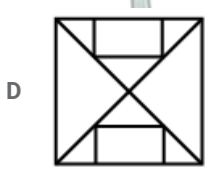
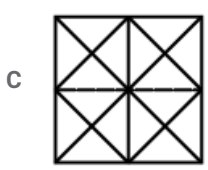
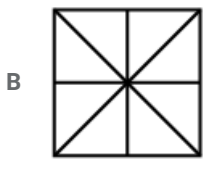
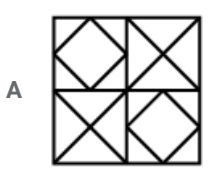




Answer: C

Question 97

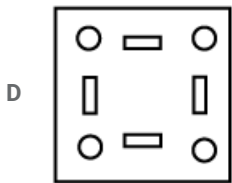
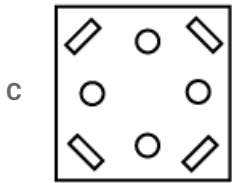
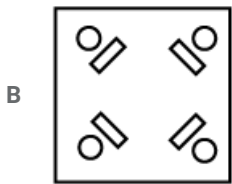
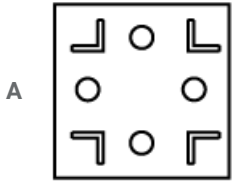
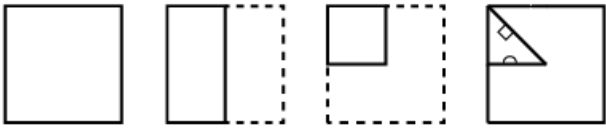
From the given answer figures, select the one in which the question figure is hidden/embedded.



Answer: C

Question 98

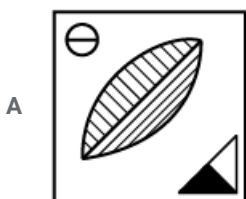
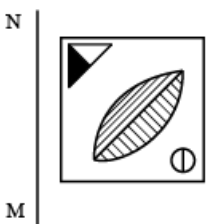
A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

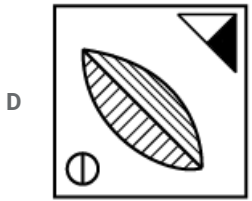
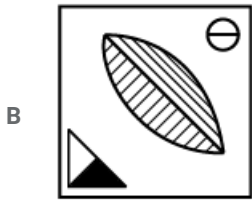


Answer: C

Question 99

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





Answer: D

Question 100

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 shown in the given two matrices. 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, for example 'C' can be represented by 43, 41 etc and 'O' can be represented by 97, 78 etc. Similarly, you have to identify the set for the word 'SPAN'.

Matrix I					
	0	1	2	3	4
0	M	M	M	I	E
1	A	M	J	I	A
2	F	I	M	I	E
3	I	J	A	L	K
4	D	C	A	C	L

Matrix II					
	5	6	7	8	9
5	N	V	Q	U	S
6	R	S	T	U	N
7	S	Z	X	O	V
8	X	S	P	W	P
9	U	X	O	Y	Y

A 66,87,33,56

B 59,78,42,31

C 86,89,32,55

D 78,43,22,98

Answer: C

General Engineering (civil & structural)

Instructions

For the following questions answer them individually

Question 101

Which of the following represent the crushing strength (MPa) for the good quality stone that are used in the construction of buildings?

A Less than 20

- B 20 to 60
- C 60 to 80
- D Greater than 100

Answer: D

Question 102

Which of the following is examined to determine the age of timber?

- A Annular ring
- B Sapwood
- C Pith
- D Timber defects

Answer: A

Question 103

Which of the following is determined with the help of Le Chatelier's device?

- A Abrasion resistance
- B Chemical resistance
- C Soundness
- D Strength

Answer: C

Question 104

The type of mortar which is used for the construction works carried out in water-logged area is ____.

- A cement mortar
- B loose mortar
- C mortar of very low consistency
- D mortar having high w/c ratio

Answer: A

Question 105

For M 25 grade concrete, the split tensile strength in terms of percentage of its compressive strength is ____

- A 7 to 11%
- B 18 to 28%
- C 28 to 38%
- D 38 to 48%

Answer: A

Question 106

Distempers are generally used to coat ____.

- A compound wall
- B external concrete surfaces
- C interior surface which are not exposed to environment
- D wood works

Answer: C

Question 107

Which of the following is commonly used as retarder in cement?

- A Calcium sulphate
- B Gypsum
- C Potassium carbide
- D Sodium chloride

Answer: B

Question 108

In the process of hydration of OPC, to complete all chemical reaction, the water requirement (expressed as the percentage of cement) is ____.

- A 5 to 8%
- B 8 to 16%
- C 20 to 25%
- D 35 to 45%

Answer: C

Question 109

The slump test is performed to check the ____.

- A presence of water in cement
- B ratio of concrete ingredients
- C temperature resistance
- D workability of concrete

Answer: D

Question 110

The reason behind the low expansion and shrinkage of the plywood is ____.

- A plies are placed at the right angles with each other

- B they are glued under the high pressure
- C they are held in the position with the help of adhesives
- D they are prepared with the help of veneers

Answer: A

Question 111

Which one of the following method is used for the approximate estimation?

- A Both central line and short wall and long wall method
- B Central line method
- C Plinth area method
- D Short wall and long wall method

Answer: C

Question 112

Accuracy in the measurement of the thickness of the slab or sectional dimension of column and beam (in centimetre) should be ____.

- A 0.5
- B 1
- C 5
- D 10

Answer: A

Question 113

Deduction at T-junction of the wall for total length of the central line is

- A half of thickness of wall
- B no deduction
- C thickness of wall
- D twice of the thickness of wall

Answer: A

Question 114

For estimation of painted area of semi corrugated asbestos cement sheets, percentage increase in area above plain area is ____.

- A 0.1
- B 0.14
- C 0.2
- D 0.25

Answer: A

Question 115

Scrap value of a property may be _____.

- A both negative or positive
- B constant
- C negative
- D positive

Answer: A

Question 116

What is the unit of measuring cornice?

- A Cubic metre
- B Number
- C Running metre
- D Square metre

Answer: C

Question 117

Calculate the number of bricks in 20 cubic metres brick works.

- A 500
- B 1000
- C 10000
- D 100000

Answer: C

Question 118

Calculate the area (square metre) of the formwork required for a beam of 2 m span and cross section dimension of 400 mm × 200 mm.

- A 0.8
- B 0.16
- C 1.2
- D 2

Answer: D

Question 119

The cross section areas of three sections of an embankment at an interval of 40 m are 10 square metres, 15 square metres and 35 square metres. Calculate the quantity of earthwork for the embankment. Use prismoidal method.

- A 1200
- B 1400
- C 1500
- D 2400

Answer: B

Question 120

Calculate the annual depreciation (Rs.) of a machine having initial cost of Rs. 10,000. The scrap value is Rs. 1,000 and useful life of 30 years.

- A 300
- B 367
- C 1333
- D 333333

Answer: A

Question 121

What is the difference between the sum of interior angles of plane triangle and spherical triangle for area of triangle 195 square kilometre on the Earth's surface?

- A one degree
- B one minute
- C one second
- D one radian

Answer: C

Question 122

Which one of the following is the largest scale?

- A 1 : 500
- B 1 : 1000
- C 1 : 2500
- D 1 : 50000

Answer: A

Question 123

The quadrantal bearing of the line lies in the third quadrant making angle in clockwise with the north is _____.

- A $N(\theta - 180)^\circ E$
- B $N(\theta - 180)^\circ W$

C $S(\theta - 180)^\circ E$

D $S(\theta - 180)^\circ W$

Answer: D

Question 124

Calculate the volume of the embankment (in cubic metre) using trapezoidal method, if the cross section areas of the three sections of an embankment at an interval of 30 m are 20 square metres, 40 square metres and 50 square metres.

A 1100

B 1150

C 2250

D 2350

Answer: C

Question 125

Which one is the CORRECT order of the tapes based on their accuracy?

A Linen tape > invar tape > metallic tape > steel tape

B Invar tape > steel tape > metallic tape > linen tape

C Metallic tape > steel tape > linen tape > invar tape

D Metallic tape > steel tape > Invar tape > linen tape

Answer: B

Question 126

In the leveling between two points A and B on the opposite sides of a pond, the level is first set up near the point A and staff reading on A and B are 2.5 m and 2.0 m respectively. Then the level is moved and set near the point B, staff reading on points A and B are 1.2 m and 1.7 m respectively. Calculate the difference of heights between the two points A and B (in metre).

A 0

B 0.5

C 1

D 1.85

Answer: A

Question 127

Calculate the combined correction for curvature and refraction (in m) for a distance of 2 km.

A 0.045

B 0.135

C 0.269

D 3.14

Answer: C

Question 128

In transit theodolite, the line of the sight can be reversed by revolving the telescope through ____.

- A 90° in horizontal plane
- B 90° in vertical plane
- C 180° in horizontal plane
- D 180° in vertical plane

Answer: D

Question 129

Which one is the CORRECT sequence for the temporary adjustment of the theodolite?

- A Centering, elimination of parallax, leveling, and setting
- B Centering, setting, elimination of parallax and leveling
- C Setting, centering, leveling and elimination of parallax
- D Setting, leveling, elimination of parallax and centering

Answer: C

Question 130

Which of the following is used for determining the location of station occupied by the plane table?

- A Both intersection and radiation
- B Intersection method
- C Radiation method
- D Two point problem

Answer: D

Question 131

Which of the following is responsible for the formation of residual soil?

- A Glaciers
- B Water
- C Wind
- D None of these

Answer: D

Question 132

The coefficient of gradation and the coefficient of uniformity of a given soil sample is 1.0 and 4.0 respectively. The ratio of effective size to the diameter through which 30% of the total mass is passed is ____.

- A 1.25
- B 1.5
- C 1.75
- D 2

Answer: D

Question 133

Which of the following shows the CORRECT order of increasing surface areas of the given soil?

- A Clay < silt < sand < colloids
- B Gravel < silt < colloids < clay
- C Sand < silt < clay < colloids
- D Silt < gravel < colloids < clay

Answer: C

Question 134

What is the assumption made about back of wall, in the Rankine's theory of earth pressure?

- A Plane and rough
- B Plane and smooth
- C Vertical and rough
- D Vertical and smooth

Answer: D

Question 135

Which of the following is CORRECT about the viscosity of gas?

- A Inversely proportional to the temperature
- B Increases with an increase in the temperature
- C Independent of pressure
- D Independent of temperature

Answer: B

Question 136

Pressure of 200 kPa is equivalent to the head of z metre of liquid having relative density 1.59. The value of z (m) is ____.

- A 11.6
- B 11.82
- C 12.82

D 13.14

Answer: C

Question 137

Which one of the following statement is CORRECT about the center of buoyancy?

- A It is the point where buoyant force act.
- B It coincides with the centroid of volume of water displaced
- C It is the point where buoyant force act. and It coincides with the centroid of volume of water displaced
- D It acts outside the body.

Answer: C

Question 138

A longitudinal rectangular surface is hanged into the water such that its top and bottom points are at depth of 1.5 m and 6.0 m respectively. The depth of center of pressure (m) from the top surface is ____.

- A 3.8
- B 4.2
- C 4.6
- D 4.8

Answer: B

Question 139

The velocity potential which follow the equation of continuity is ____.

- A x^2y
- B $x^2 - y^2$
- C $\cos x$
- D $x^2 + y^2$

Answer: B

Question 140

At what distance from the boundary layer, the value of the wall shear is three times of the turbulent shear?

- A $\frac{1}{3}R$
- B $\frac{1}{2}R$
- C $\frac{2}{3}R$
- D $\frac{3}{4}R$

Answer: C

Question 141

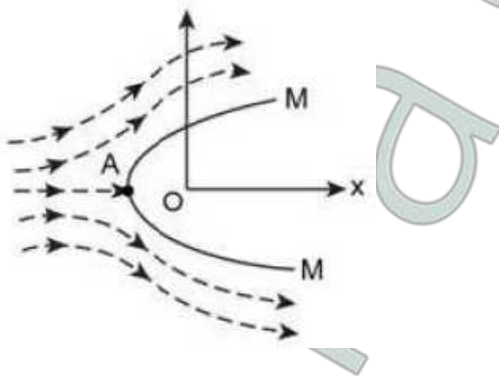
Which of the following statement is CORRECT about the stream lines and equipotential lines?

- A Both can be drawn graphically for viscous flow around any boundary.
- B Meshes formed by them are always squares.
- C They always meet orthogonally.
- D They can be calculated for all boundary conditions.

Answer: C

Question 142

The Rankine half oval body MM is subjected to the two-dimensional flow having velocity V. The typical stream line is shown in the following diagram. The point A in diagram shows



- A point at which velocity is maximum
- B separation point
- C stagnation point
- D stall point

Answer: C

Question 143

Which of the following is CORRECT ratio for Froude number?

- A Compressive force to inertia force.
- B Inertia force to gravity force.
- C Inertia force to tension force.
- D Viscous force to inertia force.

Answer: B

Question 144

For the most economical triangular channel section, the angle of sloping sides from the vertical is ____.

- A 30°
- B 45°

C 60°

D 75°

Answer: B

Question 145

Method of applying water directly to the root zone of the plant is called ____.

A check flooding

B drip method

C furrow method

D sprinkler irrigation

Answer: B

Question 146

A field of 500 hectares is to be irrigated for a particular crop having 100 days base period. The total depth of water required by the crop is 100 cm. Calculate the duty of the water (in hectares per cubic metre).

A 8.64

B 57.87

C 86.4

D 864

Answer: D

Question 147

The traffic volume of a roadway is defined as the multiplication of ____.

A speed and time headway

B speed and distance way

C traffic density and speed

D time head way and distance headway

Answer: C

Question 148

Calculate the equivalent radius (cm) of the resisting section of 20 cm slab, if the ratio of radius of wheel load distribution to the thickness of the slab is 2.

A 20

B 35.6

C 40

D 40.9

Answer: C

Question 149

On peak hourly demand, what is the maximum daily consumption for the city which have average daily consumption of $100,000 \text{ m}^3$?

- A 140000
- B 170000
- C 200000
- D 270000

Answer: D

Question 150

For which of the following, distribution mains is designed?

- A Average daily demand
- B Annual peak demand
- C Monthly peak demand
- D Maximum hourly demand on maximum day

Answer: D

Question 151

Which of the following statements is true?

- A. Most of the loads applied to a building are environmental load.
- B. Most of the loads are dead followed by live loads.

- A Only A
- B Only B
- C Both A and B
- D Neither A nor B

Answer: B

Question 152

How does an increase in the pitch of the roof affects the amount of load that can be placed on it?

- A It increases
- B It decreases
- C Remains constant
- D Depends upon case

Answer: B

Question 153

What will be the rain load (in psf) if d_s is 2 inches and d_h is 1 inches?

- A 5.2
- B 10.4
- C 15.6
- D 20.8

Answer: C

Question 154

Concrete is:-

- A Good in compression, good in tension
- B Good in compression, weak in tension
- C Weak in compression, weak in tension
- D Weak in compression, good in tension

Answer: B

Question 155

If in planar system, X parts/members are there with Y no. of forces, then condition for statically determinacy is:-

- A $Y < 3X$
- B $Y > 3X$
- C $Y = 3X$
- D None of these

Answer: C

Question 156

If a system has more equations of equilibrium than no. of forces, then the system is:-

- A Improperly constrained
- B Partially constrained
- C Stable
- D None of these

Answer: B

Question 157

Which of the following material is not used in making trusses?

- A Wooden struts
- B Metal bars
- C Channel

D Concrete

Answer: D

Question 158

In a truss it is assumed that the members are joined by _____.

A Rough pins

B Smooth pins

C Either rough or smooth pins

D None of these

Answer: B

Question 159

What is the major difference between truss and beam?

A Beam can't transmit load in vertical direction while truss can

B Truss can't transmit load in vertical direction while beam can

C Beam can't transmit load in axial direction while truss can

D Truss can't transmit load in axial direction while beam can

Answer: B

Question 160

Given that J is no. of joints. B and R are no. of members and no. of reactions. If $B = 4$, $R = 3$ and $J = 4$, then the truss is:-

A Statically determinate

B Statically indeterminate and stable

C Stable

D Unstable

Answer: D

Question 161

Which IS code gives details regarding water to be used in concrete?

A IS 456

B IS 383

C IS 565

D IS 3012

Answer: A

Question 162

Which of the below is an example of plasticizer?

A Hydroxylated carboxylic acid

B Fluoro-silicate

C Gypsum

D Surkhi

Answer: A

Question 163

How many methods of batching of concrete are there?

A 2

B 3

C 5

D 6

Answer: A

Question 164

Concrete is generally placed on a:

A Form work

B Stand

C Mould

D Platform

Answer: A

Question 165

The effective width of a column strip of a flat slab is taken as

A one-fourth the width of the panel

B half the width of the panel

C half the diameter of the column

D the diameter of the column

Answer: B

Question 166

Permanent dimension changes due to loading of concrete is termed as:

A Strain

B Extent

C Creep

D Ambit

Answer: C

Question 167

In design of R.C.C. structures, the tensile strength of concrete is taken as:

A 5N/m^2

B 2N/m^2

C 0.3N/m^2

D None of these

Answer: D

Question 168

Flexure strength of concrete is determined as:

A Modulus of rigidity

B Modulus of rupture

C Modulus of plasticity

D Modulus of elasticity

Answer: B

Question 169

Properties of concrete can broadly be divided into:

A 1

B 4

C 2

D 3

Answer: C

Question 170

Which IS code gives specifications about cement plaster?

A IS 1500

B IS 1221

C IS 1400

D IS 1661

Answer: D

Question 171

In a lime-cement plaster, ratio 1:1:6 corresponds to:

- A Lime : cement : sand
- B Cement : Lime : sand
- C Lime : sand : gravel
- D Cement : sand : gravel

Answer: B

Question 172

On which of the following does the correct proportion of ingredients of concrete depend upon?

- A bulking of sand
- B water content
- C absorption and workability
- D All option are correct

Answer: D

Question 173

If X,Y and Z are fineness moduli of coarse fine and combined aggregates, the percentage (P) of fine aggregates to combined aggregates is

- 1) $P = \frac{Z-X}{Z-Y} \times 100$
- 2) $P = \frac{X-Z}{Z-Y} \times 100$
- 3) $P = \frac{X-Z}{Z+Y} \times 100$
- 4) $P = \frac{X+Z}{Z-Y} \times 100$

- A [1] Only
- B [2] Only
- C [3] Only
- D [4] Only

Answer: B

Question 174

Which of the following statements is false?

- A Workability of the concrete mix decreases with an increase in the moisture content
- B Concrete for which preliminary tests are conducted, is called controlled concrete
- C Bulking of sand depends upon the fineness of grains
- D All option are correct

Answer: D

Question 175

Which of the following statements is false?

- A Space between the exterior walls of a warehouse and bag piles should be 30 cm
- B Cement bags should preferably be piled on wooden planks
- C Cement bags should be placed such that bags of one layer does not touch the bags of the adjacent layer
- D None of these

Answer: D

Question 176

Which of the following statements is false?

- A With passage of time, the strength of cement increases
- B With passage of time, the strength of cement decreases
- C After a period of 24 months, the strength of cement reduces to 50%
- D The concrete made with storage deteriorated cement gains strength with time

Answer: A

Question 177

For a concrete mix 1:3:6 and water cement ratio 0.6 both by weight, what is the quantity of water required per bag?

- A 10 kg
- B 12 kg
- C 14 kg
- D None of these

Answer: C

Question 178

Transport of concrete by pumps, is done for a distance of

- A 100 m
- B 200 m
- C 300 m
- D 400 m

Answer: D

Question 179

The compression in PSC is done by _____ of high-strength tendons.

- A Compression
- B Tensioning
- C Shearing

D Bending

Answer: B

Question 180

In which beam tension capacity of steel is greater than combined compression capacity of steel and concrete?

- A Over-reinforced
- B Under-reinforced
- C Singly reinforced
- D Doubly reinforced

Answer: A

Question 181

If w is total load per unit area on a panel, D is the diameter of the column head. L is the span in two directions, then the sum of the maximum positive bending moment and average of the negative bending moment for the design of the span of a square flat slab, should not be less than

- A] $\frac{WL}{12} \left(L - \frac{2D}{3}\right)^2$
- B] $\frac{WL}{10} \left(L + \frac{2D}{3}\right)^2$
- C] $\frac{WL}{10} \left(L - \frac{2D}{3}\right)^2$
- D] $\frac{WL}{12} \left(L - \frac{D}{3}\right)^2$

- A A only
- B B only
- C C only
- D D only

Answer: C

Question 182

For a circular slab carrying a uniformly distributed load, the ratio of the maximum negative to maximum positive radial moment is

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

Answer: B

Question 183

If permissible compressive stress in concrete is 50 kg/cm^2 , tensile stress in steel is 1400 kg/cm^2 and modular ratio is 18, the depth of the beam is

1] $d = \sqrt{\frac{0.11765 \times B.M}{\text{breadth}}}$

2] $d = \sqrt{\frac{0.22765 \times B.M}{\text{breadth}}}$

3] $d = \sqrt{\frac{0.33765 \times B.M}{\text{breadth}}}$

4] $d = \sqrt{\frac{0.44765 \times B.M}{\text{breadth}}}$

A [1] only

B [2] only

C [3] only

D [4] only

Answer: A

Question 184

The breadth of a ribbed slab containing two bars must be between

A 6 cm to 7.5 cm

B 8 cm to 10 cm

C 10 cm to 12 cm

D None of these

Answer: B

Question 185

A foundation rests on which of the following?

A base of the foundation

B sub grade

C foundation soil

D Both Sub grade and foundation soil

Answer: D

Question 186

Which of the following statements is true?

A To ensure uniform pressure distribution, the thickness of the foundation is kept uniform through out

B To ensure uniform pressure distribution, the thickness of the foundation is increased gradually towards the edge

C To ensure uniform pressure distribution, the thickness of the foundation is decreased gradually towards the edge

D To ensure uniform pressure distribution, the thickness of the foundation is kept zero at the edge

Answer: C

Question 187

The weight of a foundation is assumed as which of the following?

- A 5% of wall weight
- B 7% of wall weight
- C 10% of wall weight
- D 12% of wall weight

Answer: C

Question 188

If the width of the foundation for two equal columns is restricted, the shape of the footing generally adopted is

- A Square
- B rectangular
- C trapezoidal
- D triangular

Answer: B

Question 189

Maximum shear stress theory for the failure of a material at the elastic limit is known as

- A Guest's or Tresca's theory
- B St.Venant's theory
- C Rankine's theory
- D Haig's theory

Answer: A

Question 190

A simply supported beam carries a varying load from zero at one end and w at the other end. If the length of the beam is a , the maximum bending moment will be

- A] $\frac{wa}{27}$
- B] $\frac{wa^2}{27}$
- C] $\frac{w^2a}{\sqrt{27}}$
- D] $\frac{wa^2}{9\sqrt{3}}$

- A A only
- B B only

C C only

D D only

Answer: D

Question 191

When not specified, the volume of steel in R.C.C. work is taken as:-

A 1% to 1.6% of R.C.C. volume

B 2% to 4% of R.C.C. volume

C 4% to 6% of R.C.C. volume

D 0.6% to 1% of R.C.C. volume

Answer: D

Question 192

The ratio of maximum shear stress to average shear stress of a circular beam is:

A $\frac{2}{3}$

B $\frac{3}{2}$

C $\frac{3}{4}$

D $\frac{4}{3}$

Answer: D

Question 193

The property of a material by which it can be beaten or rolled into plates, is called

A ductility

B plasticity

C elasticity

D None of these

Answer: D

Question 194

What is the limit to Poisson's ratio?

A 0.1

B 0.2

C 0.3

D None of these

Answer: D

Question 195

Among the following, which is least elastic?

- A Iron
- B Copper
- C Both Copper and Silver
- D Rubber

Answer: D

Question 196

Two bars of different materials are of the same size and are subjected to same tensile forces. If the bars have unit elongations in the ratio of 4 : 7, then the ratio of modulus of elasticity of the two materials is

- A 4 : 7
- B 4 : 10
- C 16 : 49
- D None of these

Answer: D

Question 197

If a composite bar of steel and copper is heated, then the copper bar will be under:

- A tension
- B shear
- C torsion
- D None of these

Answer: D

Question 198

Pick up the incorrect statement from the following : The torsional resistance of a shaft is directly proportional to

- A modulus of rigidity
- B angle of twist
- C reciprocal of the length of the shaft
- D moment of inertia of the shaft section.

Answer: D

Question 199

Net sectional area of a tension member, is equal to its cross section area_____.

- A plus the area of the rivet holes

- B divided by the area of rivet holes
- C multiplied by the area of the rivet holes
- D minus the area of the rivet holes

Answer: D

Question 200

When a tension member consists of two channel sections, the allowance for rivet hole is made for two holes from

- A each web
- B each flange
- C each web or one hole from each flange whichever is more
- D each web or one hole from each flange whichever is less

Answer: D