1.

3, 4, 7, 11, 18, 29,?

(A)

31

(B)

39

(C)

43

(D)

47

Answer: (D) 47

2.

AGMSY, CIOUA, EKQWC, …..... , IOUAG, KQWCI

(A)

GMSYE

(B)

FMSYE

(C)

GNSYD

(D)

FMYES

Answer: (A) GMSYE

3.

975, 864, 753, 642,?

(A)

431

(B)

314

(C)

531

(D)

532

Answer: (C) 531

4.

8, 24, 12, …..... , 18, 54

(A)

28

(B)

36

(C)

46

(D)

38

Answer: (B) 36

5

Ashok's mother was 3 times as old Ashok 5 years ago. After 5 years she will be twice as old as Ashok. How old is Ashok today?

(A)

10 years

(B)

15 years

(C)

20 years

(D)

25 years

Answer: (B) 15 years

6.

M is the son of P. Q is the granddaughter of 0 who is the husband of P. How is M related to O?

(A)

Son

(B)

Daughter

(C)

Mother

(D)

Father

Answer: (A) Son

7.

In a row of boys, Srinath is 7th from the left and Venkat is 12th from the right. If they interchange their positions, Srinath becomes 22nd from the left. How many boys are there in the row?

(A)

19

(B)

31

(C)

33

(D)

34

Answer: (C) 33

8.

Peter walked 8 kms. west and turned right and walked 3 kms. The again he turned right and walked 12 kms. How far is he from the starting point?

(A)

7

(B)

9

(C)

4

(D)

8

Answer: (D) 8

9.

FGID : OPQR : : BCDE : ?

(A)

KLMJ

(B)

KLMN

(C)

IUVW

(D)

STUW

Answer: (B) KLMN

10.

17 : 60 : : 20 : ?

(A)

57

(B)

69

(C)

81

(D)

93

Answer: (B) 69

11.

What is the pH value of the human body?

(A)

9.2 to 9.8

(B)

7.0 to 7.8

(C)

6.1 to 6.3

(D)

5.4 to 5.6

Answer: (B) 7.0 to 7.8

12

Which of the following are called "Key Industrial animals"?

(A)

Producers

(B)

Tertiary consumers

(C)

Primary consumers

(D)

None

Answer: (C) Primary consumers

13

Which of the given amendments made it compulsory for the president to consent to the constitutional Amendment bills?

(A)

27th

(B)

29th

(C)

24th

(D)

22th

Answer: (C) 24th

14.

Elections to panchayats in state are regulated by

(A)

Gram panchayat

(B)

Nagar Nigam

(C)

Election Commission of India

(D)

State Election Commission

Answer: (D) State Election Commission

15

Which of the following Himalayan regions is called "Shivalik's"?

(A)

Upper Himalayas

(B)

Lower Himalayas

(C)

Outer Himalayas

(D)

Inner Himalayas

Answer: (C) Outer Himalayas

16.

Forming of Association in India is

(A)

Legal Right

(B)

Illegal Right

(C)

Natural Right

(D)

Fundamental Right

Answer: (D) Fundamental Right

17.

The Samkhya School of Philosophy was founded by

(A)

Gautam Buddha

(B)

Mahipala

(C)

Gopala

(D)

Kapila

Answer: (D) Kapila

18

Right to emergency medical aid is a

(A)

Legal Right

(B)

Illegal Right

(C)

Constitutional Right

(D)

Fundamental Right

Answer: (D) Fundamental Right

19.

On the recommendation of which of the given committee, the abolition of reservation of items for the small-scale sector in industry is considered?

(A)

Lohia Committee

(B)

Narasimhan Committee

(C)

Ajit Kumar Committee

(D)

Abid Hussain Committee

Answer: (D) Abid Hussain Committee

20.

Chelaiya Samiti is related to which of the following?

(A)

Banking sector

(B)

Insurance sector

(C)

Health Sector

(D)

Tax reforms

Answer: (D) Tax reforms

21.

What are building materials?

(A)

Substance that which cannot be utilised in the construction of a structure

(B)

Substance that is utilised in the construction of a structure

(C)

Substance that is utilised in the manufacturing of construction materials

(D)

None

Answer: (B) Substance that is utilised in the construction of a structure

22.

Which of the following is/are basic building materials?

(A)

Wood

(B)

Cement

(C)

Brick

(D)

All of these

Answer: (D) All of these

23.

Which of the following is/are the classification of building materials?

(A)

Inorganic materials and Organic materials

(B)

Waterproofing compounds

(C)

Binders

(D)

All of these

Answer: (A) Inorganic materials and Organic materials

24.

Which of the following is not a type of Inorganic building materials?

(A)

Mud

(B)

Gypsum

(C)

Wood

(D)

Lime

Answer: (C) Wood

25.

Which of the following line is usually parallel to the plot boundaries and laid down in each case by the Authority, beyond which nothing can be constructed towards the site boundaries?

(A)

Property line

(B)

Building line

(C)

Plot line

(D)

Control line

Answer: (B) Building line

26.

Which of the following building material have high Seismic resistance and flexibility of nailed joints.

(A)

Husk

(B)

Bamboo

(C)

Timber

(D)

Ply

Answer: (C) Timber

27.

Construction of cavity walls as external walls to protect the building from the outside heat or cold as the hollow space between two walls act as an _____

(A)

Destructive material

(B)

Burning material

(C)

Building material

(D)

Insulating material

Answer: (D) Insulating material

28.

Which of the following type of foundation is used for the construction of building on black cotton soil?

(A)

Grillage foundation

(B)

Inverted arch foundation

(C)

Floating foundation

(D)

Mat foundation

Answer: (D) Mat foundation

29.

What is concrete?

(A)

A mixture of homogenous materials

(B)

A mixture of material and hydrogen

(C)

A mixture of cement and hydrogen sulphide

(D)

A mixture of cement, water, and aggregates

Answer: (D) A mixture of cement, water, and aggregates

30.

Why concrete technology is needed?

(A)

Concrete technology is needed to build a building

(B)

Concrete technology is needed to address properties of concrete

(C)

Concrete technology is needed to produce building materials

(D)

None

Answer: (B) Concrete technology is needed to address properties of concrete

31.

Who is the father of concrete technology?

(A)

William Aspdin

(B)

Royston Saint John

(C)

Joseph Aspdin

(D)

None

Answer: (A) William Aspdin

32.

What is the objective of concrete technology?

(A)

To find the material strength

(B)

Calculate the amount of cement required

(C)

To define and understand concepts related to Cement

(D)

To define and understand concepts related to Concrete technology

Answer: (D) To define and understand concepts related to Concrete technology

33.

For a compressive strength of 3000 psi, the lightweight cement content is ____ pounds per cubic yard.

(A)

400-590

(B)

440-560

(C)

430-560

(D)

730-750

Answer: (B) 440-560

34.

What is the importance of the Standard Consistency Test?

(A)

It is used to determine the quality of water

(B)

It is used to determine the quality of aggregates

(C)

It is used to determine the quality of cement

(D)

None

Answer: (A) It is used to determine the quality of water

35.

Hydration of cement is chemical reaction of cement with _____

(A)

base

(B)

acid

(C)

salt and acid

(D)

water

Answer: (D) water

36.

Which of the following cement is used for interior and exterior decorative works?

(A)

Low Heat Cement

(B)

High Alumina Cement

(C)

Rapid Hardening Cement

(D)

Colored Cement

Answer: (D) Colored Cement

37.

Which of the following is the first principle of surveying?

(A)

Whole to whole

(B)

Part to part

(C)

Part to whole

(D)

Whole to part

Answer: (D) Whole to part

38.

Which of the following type of surveying is used for exploring mineral wealth?

(A)

Military surveying

(B)

Mine surveying

(C)

Topographic surveying

(D)

Engineering surveying

Answer: (B) Mine surveying

39.

In which of the following type of surveying only linear measurements are made?

(A)

Dumpy level

(B)

Theodolite surveying

(C)

Chain surveying

(D)

Contouring

Answer: (C) Chain surveying

40.

In which of the following cases compass surveying is recommended?

(A)

When area is small, undulating and not details are crowded

(B)

When area is large, undulating and crowded with many details

(C)

When area is small, even and crowded with many details

(D)

When area is large, even and crowded with many details

Answer: (B) When area is large, undulating and crowded with many details

41.

Which of the following is not required for chain surveying?

(A)

Dumpy level

(B)

Pegs

(C)

Arrows

(D)

20 m chain

Answer: (A) Dumpy level

42.

Which of the following is the last step in chain surveying?

(A)

Fixing

(B)

Reconnaissance

(C)

Running survey lines

(D)

Marking

Answer: (C) Running survey lines

43.

Which of the following type of ranging is done if both ends of surveying lines are visible?

(A)

Indirect

(B)

Reciprocal

(C)

Unable to do

(D)

Direct

Answer: (D) Direct

44.

In which of the following type of surveying in the mean surface of the earth is considered as a plane and the spheroidal shape is neglected?

(A)

Plane Surveying

(B)

Geodetic Surveying

(C)

Hydrographic Surveying

(D)

Topographic Surveying

Answer: (A) Plane Surveying

45.

The hydraulic head that would produce a quick condition in a sand stratum of thickness 1.5 m, specific gravity 2.67 and voids ratio 0.67 is equal to

(A)

1.0m

(B)

1.5m

(C)

2.0m

(D)

3m

Answer: (B) 1.5m

46.

Clay layer A with single drainage and coefficient of consolidation Cv takes 6 months Cv/2 to achieve 50% consolidation. The time taken by clay layer B of the same thickness with double drainage and coefficient of consolidation

(A)

3 months

(B)

6 months

(C)

12 months

(D)

24 months

Answer: (A) 3 months

47.

Degree of consolidation is

(A)

directly proportional to time and inversely proportional to drainage path

(B)

directly proportional to time and inversely proportional to square of drainage path

(C)

directly proportional to drainage path and inversely proportional to time

(D)

directly proportional to square of drainage path and inversely proportional to time

Answer: (B) directly proportional to time and inversely proportional to square of drainage path

48.

For a loose sand sample and a dense sand sample consolidated to the same effective stress

(A)

ultimate strength is same and also peak strength is same

(B)

ultimate strength is different but peak strength is same

(C)

ultimate strength is same but peak strength of dense sand is greater than that of loose sand

(D)

ultimate strength is same but peak

Answer: (C) loose sand

49.

Within the consolidation process of a saturated clay

(A)

a gradual increase in neutral pressure and a gradual decrease in effective pressure takes place and sum of the two is constant

(B)

a gradual decrease in neutral pressure and a gradual increase in effective pressure takes place and sum of the two is constant

(C)

both neutral pressure and effective pressure decrease

(D)

both neutral pressure and effective pressure increase

Answer: (B) a gradual decrease in neutral pressure and a gradual increase in effective pressure takes place and sum of the two is constant

50.

Rise of water table in cohesionless soils up to ground surface reduces the net ultimate bearing capacity approximately by

(A)

25%

(B)

0.5

(C)

0.75

(D)

0.9

Answer: (B) 0.5

51.

Terzaghi’s bearing capacity factors Nc, Nq and Nr are functions of

(A)

cohesion only

(B)

angle of internal friction only

(C)

both cohesion and angle of internal friction

(D)

None

Answer: (B) angle of internal friction only

52.

The flownet for an earthen dam with 30 m water depth consists of 25 potential drops and 5 flow channels. The coefficient of permeability of dam material is 0.03 mm/sec. The discharge per meter length of dam is

(A)

0.00018 m3/sec

(B)

0.0045 m3/sec

(C)

0.18 m3/sec

(D)

0.1125 m3/sec

Answer: (A) 0.00018 m3/sec

53.

A simply supported beam A carries a point load at its mid span. Another identical beam B carries the same load but uniformly distributed over the entire span. The ratio of the maximum deflections of the beams A and B, will be

(A)

2\3

(B)

3\2

(C)

5\8

(D)

8\5

Answer: (D) 8\5

54.

The ratio of the maximum deflections of a simply supported beam with a central load W and of a cantilever of same length and with a load W at its free end, is

(A)

1\8

(B)

1\10

(C)

1\12

(D)

1\16

Answer: (D) 1\16

55.

The ratio of the length and depth of a simply supported rectangular beam which experiences maximum bending stress equal to tensile stress, due to same load at its mid span, is

(A)

1\2

(B)

2\3

(C)

1\4

(D)

1\3

Answer: (B) 2\3

56.

The ratio of the length and diameter of a simply supported uniform circular beam which experiences maximum bending stress equal to tensile stress due to same load at its mid span, is

(A)

1\8

(B)

1\4

(C)

1\2

(D)

1\3

Answer: (C) 1\2

57.

Shear strain energy theory for the failure of a material at elastic limit, is due to

(A)

Rankine

(B)

Guest or Trecas

(C)

St. Venant

(D)

Von Mises

Answer: (D) Von Mises

58.

A simply supported rolled steel joist 8 m long carries a uniformly distributed load over it span so that the maximum bending stress is 75 N/mm2. If the slope at the ends is 0.005 radian and the value of E = 0.2 × 106 N/mm2, the depth of the joist, is

(A)

200 mm

(B)

250 mm

(C)

300 mm

(D)

400 mm

Answer: (D) 400 mm

59.

A compound truss may be formed by connecting two simple rigid frames, by

(A)

Two bars

(B)

Three bars

(C)

Three parallel bars

(D)

Three bars intersecting at a point

Answer: (B) Three bars

60.

A truss containing j joints and m members, will be a simple truss if

(A)

$m = 2j - 3$

(B)

$j = 2m - 3$

(C)

$m = 3j - 2$

(D)

j = 3m - 2

Answer: (A) m = 2j - 3

61.

In a pre-stressed member it is advisable to use

(A)

Low strength concrete only

(B)

High strength concrete only

(C)

Low strength concrete but high tensile steel

(D)

High strength concrete and high tensile steel

Answer: (D) High strength concrete and high tensile steel

62.

In a pre-stressed beam carrying an external load W with a bent tendon is having angle of inclination θ and pre-stressed load P. The net downward load at the centre is

(A)

W - 2P cosθ

(B)

W - P cosθ

(C)

W - P sinθ

(D)

W - 2P sinθ

Answer: (D) W - 2P sinθ

63.

The minimum clear cover for R.C.C. columns shall be

(A)

Greater of 40 mm or diameter

(B)

Smaller of 40 mm or diameter

(C)

Greater of 25 mm or diameter

(D)

Smaller of 25 mm or diameter

Answer: (C) Greater of 25 mm or diameter

64.

If the length of an intermediate span of a continuous slab is 5 m, the length of the end span is kept

(A)

4.5 m

(B)

4.0 m

(C)

3.5 m

(D)

3.0 m

Answer: (A) 4.5 m

65.

A foundation is called shallow if its depth, is

(A)

One-fourth of its width

(B)

Half of its width

(C)

Three-fourth of its width

(D)

Equal to its width

Answer: (D) Equal to its width

66.

A T-beam behaves as a rectangular beam of a width equal to its flange if its neutral axis

(A)

Remains within the flange

(B)

Remains below the slab

(C)

Coincides the geometrical centre of the beam

(D)

None

Answer: (A) Remains within the flange

67.

According to I.S. : 456, slabs which span in two directions with corners held down, are assumed to be divided in each direction into middle strips and edge strips such that the width of the middle strip, is

(A)

Half of the width of the slab

(B)

Two-third of the width of the slab

(C)

Three-fourth of the width of the slab

(D)

Four-fifth of the width of the slab

Answer: (C) Three-fourth of the width of the slab

68.

If the permissible compressive stress for a concrete in bending is C kg/m2, the modular ratio is

(A)

2800/C

(B)

2300/2C

(C)

2800/3C

(D)

2800/C2

Answer: (C) 2800/3C

69.

According to the principle of buoyancy a body totally or partially immersed in a fluid will be lifted up by a force equal to

(A)

the weight of the body

(B)

more than the weight of the body

(C)

less than the weight of the body

(D)

weight of the fluid displaced by the body

Answer: (D) weight of the fluid displaced by the body

70.

Fluid is a substance that

(A)

cannot be subjected to shear forces

(B)

always expands until it fills any container

(C)

has the same shear stress.at a point regardless of its motion

(D)

cannot remain at rest under action of any shear force

Answer: (D) cannot remain at rest under action of any shear force

71.

The line of action of the buoyant force acts through the

(A)

centroid of the volume of fluid vertically above the body

(B)

center of the volume of floating body

(C)

center of gravity of any submerged body

(D)

centriod of the displaced volume of fluid

Answer: (D) centriod of the displaced volume of fluid

72.

A vertical rectangular plane surface is submerged in water such that its top and bottom surfaces are 1.5 m and 6.0 m res-pectively below the free surface. The position of center of pressure below the free surface will be at a distance of

(A)

3.75 m

(B)

4.0 m

(C)

4.2m

(D)

4.5m

Answer: (C) 4.2m

73.

The region between the separation streamlines and the boundary surface of the solid body is known as

(A)

wake

(B)

drag

(C)

lift

(D)

boundary layer

Answer: (A) wake

74.

The horizontal component of buoyant force is

(A)

negligible

(B)

same as buoyant force

(C)

zero

(D)

None

Answer: (C) zero

75.

Metacentric height is given as the distance between

(A)

the center of gravity of the body and the meta center

(B)

the center of gravity of the body and the center of buoyancy

(C)

the center of gravity of the body and the center of pressure

(D)

center of buoyancy and metacentre

Answer: (A) the center of gravity of the body and the meta center

76.

The total pressure force on a plane area is equal to the area multiplied by the intensity of pressure at the centriod, if

(A)

the area is horizontal

(B)

the area is vertical

(C)

the area is inclined

(D)

All of these

Answer: (D) All of these

77.

The maximum permissible nitrites in public water supplies, is

(A)

Nil

(B)

0.5 PPM

(C)

1 PPM

(D)

1.5 PPM

Answer: (A) Nil

78.

Chemical coagulation of drinking water, is done

(A)

To settle suspended materials

(B)

To increase rate of settlement of suspended materials

(C)

To remove the bacteria

(D)

None

Answer: (B) To increase rate of settlement of suspended materials

79.

Rapid gravity filters

(A)

Were developed by G.W. Fuller

(B)

Make use of coarser sand with effective size as 0.5 mm

(C)

Yield as high as 30 times the yield of slow sand filters

(D)

All of these

Answer: (D) All of these

80.

The detention period for plain sedimentation water tanks, is usually

(A)

4 to 8 hours

(B)

8 to 16 hours

(C)

16 to 24 hours

(D)

24 to 36 hours

Answer: (D) 24 to 36 hours

81.

Most satisfactory formula for an estimate of fire demand Q for a city of population P in thousands for Indian conditions, is

(A)

$Q = 1115 (p/5 + 20)$

(B)

$Q = 1640 \sqrt{P} (1 – 0.01 \sqrt{P})$

(C)

$Q = 3180 \sqrt{P}$

(D)

None

Answer: (C) $Q = 3180 \sqrt{P}$

82.

After cleaning a slow sand filter, the filtered water is not used for

(A)

6 hours to 12 hours

(B)

12 hours to 18 hours

(C)

18 hours to 24 hours

(D)

24 hours to 36 hours

Answer: (D) 24 hours to 36 hours

83.

A city supply includes

(A)

Domestic water demand

(B)

Industrial and commercial water demands

(C)

Demand for public uses and fire

(D)

All of these

Answer: (D) All of these

84.

Turbidity is the ability of water to

(A)

Scatter light

(B)

Retain suspended solids

(C)

Retain colloidal solids in suspension

(D)

Detain dissolved solids

Answer: (A) Scatter light

85.

What is Highway Engineering?

(A)

Highway Engineering is a specialized field of Civil Engineering

(B)

Highway Engineering is a specialized field of Concrete Technology

(C)

Highway Engineering is a specialized field of Transportation Engineering

(D)

None

Answer: (C) Highway Engineering is a specialized field of Transportation Engineering

86.

What is the use of highways?

(A)

Highways were created to connect cities and villages

(B)

Highways is the quickest option

(C)

Highways reduce travel time by half

(D)

All of these

Answer: (D) All of these

87.

Which of the following is a commercial element in highway construction?

(A)

Material

(B)

Environmental aspects

(C)

Installation technique

(D)

Traffic

Answer: (B) Environmental aspects

88.

The New highway project is divided into how many stages?

(A)

Four

(B)

Three

(C)

Two

(D)

One

Answer: (B) Three

89.

Which of the following does not include in the phases of highway planning?

(A)

Financing

(B)

Showing the phasing of a plan in the five-year plan

(C)

Assessment of road length requirement

(D)

Preparation of master plan

Answer: (A) Financing

90.

As per the Nagpur plan, the un-surfaced roads were meant for _____

(A)

Other district road and village road

(B)

Major district road

(C)

State highway

(D)

National highway

Answer: (A) Other district road and village road

91.

Which of the following is not considered when designing highways?

(A)

Settlement

(B)

Cross section

(C)

Level of service

(D)

Sight distance

Answer: (A) Settlement

92.

Which of the following is the process of removing and controlling excess surface and sub soil water within the roadway?

(A)

Highway finance

(B)

Highway drainage

(C)

Highway Engineering

(D)

Highway maintenance

Answer: (B) Highway drainage

93.

The expected out turn of 12 mm plastering with cement mortar is

(A)

2.5 sq m

(B)

4.0 sq m

(C)

6.0 sq m

(D)

8.0 sq m

Answer: (D) 8.0 sq m

94.

The excavation exceeding 1.5 m in width and 10 sq.m in plan area with a depth not exceeding 30 cm, is termed as

(A)

Excavation

(B)

Surface dressing

(C)

Cutting

(D)

Surface excavation

Answer: (D) Surface excavation

95.

The rate of payment is made for 100 cu m (per % cu m) in case of

(A)

Earth work in excavation

(B)

Rock cutting

(C)

Excavation in trenches for foundation

(D)

All of these

Answer: (D) All of these

96.

Due to change in price level, a revised estimate is prepared if the sanctioned estimate exceeds

(A)

0.02

(B)

0.025

(C)

0.04

(D)

0.05

Answer: (D) 0.05

97.

The concrete work for the following part of the building of specified thickness is measured in square meters

(A)

Root slabs

(B)

Floors

(C)

Wall panels

(D)

All of these

Answer: (D) All of these

98.

The measurement is made in square metre in case of

(A)

Cement concrete in foundation

(B)

R.C.C. structure

(C)

Hollow concrete block wall

(D)

None

Answer: (D) None

99.

The damp proof course (D.P.C.) is measured in

(A)

Cub. m

(B)

Sq. m

(C)

Meters

(D)

None

Answer: (B) Sq. m

100.

The diameter of a domestic sewer pipe laid at gradient 1 in 100 is recommended

(A)

100 mm

(B)

150 mm

(C)

200 mm

(D)

175 mm

Answer: (B) 150 mm