

PROVISIONAL ANSWER KEY

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Question1:-The first amendment of Indian Constitution deals about

- A:-Land reforms
- B:-Education as fundamental right
- C:-Formation of states
- D:-Voting age decreased from 21 to 18

Correct Answer:- Option-A

Question2:-The first Keralite who become the judge of Supreme Court

- A:-Justice Fathima Beevi
- B:-Justice K.T. Koshi
- C:-Justice K.G. Balakrishnan
- D:-Justice P. Govindamenon

Correct Answer:- Option-D

Question3:-Among the following books which is based on malabar rebellion

- A:-Prarodhanam
- B:-Duravastha
- C:-Chandala Bikshuki
- D:-Karuna

Correct Answer:- Option-B

Question4:-National food security bill passed by Loksabha on

- A:-2013 - August - 26
- B:-2013 - Nov - 26
- C:-2013 - January - 26
- D:-2013 - April - 26

Correct Answer:- Option-A

Question5:-Sadhu Jana Paripalana Sangam was formed by

- A:-Ayyankali
- B:-Sahodaran Ayyappan
- C:-Pandit. K.P. Karuppan
- D:-Kumara Guru

Correct Answer:- Option-A

Question6:-The Newspaper 'Kerala Kaumudi' was started by

- A:-K.P. Kesavamenon
- B:-T.K. Madhavan
- C:-C.V. Kunchiraman
- D:-K. Kelappan

Correct Answer:- Option-C

Question7:-Who was the leader of Vaikom Sathyagraha?

- A:-A.K. Gopalan
- B:-K. Kelappan
- C:-T.K. Madhavan
- D:-Mannath Padmanabhan

Correct Answer:- Option-C

Question8:-The first chairperson of Kerala Vanitha Commission

- A:-K.C. Rosakutty
- B:-Sugathakumari
- C:-M. Kamalam
- D:-Justice K.K. Usha

Correct Answer:- Option-B

Question9:-English Education introduced in Travancore by

- A:-Swathi Thirunal
 - B:-Rani Gouri Lakshmi Bai
 - C:-Ayilyam Thirunal
 - D:-Uthradam Thirunal
- Correct Answer:- Option-A

Question10:-Who is known as 'Kerala Valmeeki'?

- A:-P. Kunchiraman Nair
 - B:-Vallathole Narayana Menon
 - C:-Kerala Varmma Valiya Koyithamburan
 - D:-Ulloor. S. Parameswara Iyer
- Correct Answer:- Option-B

Question11:-If x, y, z are 1st, 2nd and 3rd terms of an AP respectively, then $\frac{1}{x} + \frac{1}{y} + \frac{1}{z} =$

- A:- $\frac{1}{xyz}$
 - B:-0
 - C:- $\frac{1}{x+y+z}$
 - D:-1
- Correct Answer:- Option-B

Question12:-If $K = \begin{vmatrix} x & y & z \\ a & b & c \\ p & q & r \end{vmatrix}$ then $\begin{vmatrix} 3x & 3y & 3z \\ 3a & 3b & 3c \\ 3p & 3q & 3r \end{vmatrix} =$

- A:- K
 - B:- $27K$
 - C:- $3K$
 - D:- $9K$
- Correct Answer:- Option-B

Question13:-For the matrix $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 1 & 1 \\ 1 & 0 & 0 \end{bmatrix}$, the matrix $A^{-1} = \begin{bmatrix} k & 0 & 0 \\ 0 & k & 0 \\ 0 & 0 & k \end{bmatrix}$ then the value of k is

- A:-6
 - B:-3
 - C:-9
 - D:-1
- Correct Answer:- Option-D

Question14:- $\int \log(2x) dx$ is

- A:- $x \log(2x) - x + c$
 - B:- $\frac{1}{2x} + c$
 - C:- $\frac{2}{x} + c$
 - D:- $x [\log(2x) + 1] + c$
- Correct Answer:- Option-A

Question15:-The general solution of the differential equation $\frac{dy}{dx} = \frac{(1+e^y)}{(1+e^x)e^y}$ is

- A:- $\log\left[\frac{1+e^x}{1+e^y}\right] + x = c$
 - B:- $\log\left[\frac{1+e^y}{1+e^x}\right] - x = c$
 - C:- $\log[(1+e^x)(1+e^y)] - x = c$
 - D:- $(1+e^x)(1+e^y) - x = c$
- Correct Answer:- Option-C

Question16:-If $y = x^2 + ax + b \log(|x|)$ has its extremum value at $x=1$, and $x=-3$, then

- A:- $a = 4, b = -6$
 - B:- $a = 3, b = 6$
 - C:- $a = 3, b = -3$
 - D:- $a = 2, b = 3$
- Correct Answer:- Option-A

Question17:-If $x - 3y + |y|$, then y as a function of x is

- A:-not continuous at $x = 0$
 - B:-differentiable for all x
 - C:- $\frac{dy}{dx} = \frac{1}{4}$, for $y > 0$
 - D:- $\frac{dy}{dx} = \frac{1}{2}$, for $y > 0$
- Correct Answer:- Option-C

Question18:-The number of terms in the expansion of $(x + y + z)^6$ is

- A:-28
- B:-30
- C:-42
- D:-7

Correct Answer:- Option-A

Question19:-If $\sqrt{3} \cos^{-1}(x) + 2 \sin^{-1}(x) = \frac{3\pi}{2}$, then the value of x is

- A: $-\frac{1}{2}$
- B: 0
- C: $\frac{1}{\sqrt{2}}$
- D: $\frac{\sqrt{3}}{2}$

Correct Answer:- Option-B

Question20:-A straight line passes through $P(2, 3)$ is such that its intercepts between the axes is bisected at P . Then the straight line is

- A: $3x + 2y = 6$
- B: $2x + y = 6$
- C: $2x + 3y = 24$
- D: $3x + 2y = 12$

Correct Answer:- Option-D

Question21:-An RLC series circuit has a resistance R of 20Ω and a current which lags behind the applied voltage by 45° . If the voltage across the inductor is twice the voltage across capacitor, what is the value of inductive reactance?

- A: 10Ω
- B: 20Ω
- C: 40Ω
- D: 60Ω

Correct Answer:- Option-C

Question22:-Three currents i_1, i_2, i_3 are approaching a node if $i_1 = 10\sin(400t + 60^\circ)A$ and $i_2 = 10\sin(400t - 60^\circ)A$. Then i_3 is

- A: 0 A
- B: $10\sin 400t$ A
- C: $-10\sin 400t$ A
- D: $-5\sqrt{3}\cos 400t$ A

Correct Answer:- Option-C

Question23:-A water boiler at home is switched on to the ac mains supplying power at $230 V/50$ Hz. The frequency of instantaneous power consumed by the boiler is

- A: 0 Hz
- B: 50 Hz
- C: 150 Hz
- D: 100 Hz

Correct Answer:- Option-D

Question24:-Which of the following statement with magnetic field is correct?

- A: The electric current always produces a magnetic field
- B: The electric current produces magnetic field only in presence of a coil
- C: The electric current produces magnetic field only in presence of iron core
- D: Only large current produces magnetic field

Correct Answer:- Option-A

Question25:-When a pure resistor $R = 100 \Omega$ has an applied voltage $v = 200 \sin 314t$. The average power in the 100Ω resistor is

- A: 100 W
- B: 200 W
- C: 400 W
- D: 800 W

Correct Answer:- Option-B

Question26:-The red colour of brick is due to

- A: iron oxide
- B: magnesia
- C: silica
- D: alumina

Correct Answer:- Option-A

Question27:-Purest form of iron is

- A: mild steel
- B: cast iron
- C: high carbon steel
- D: wrought iron

Correct Answer:- Option-D

Question28:-Shape of combined footing to support two unequal columns is

- A:-square
- B:-rectangle
- C:-triangle
- D:-trapezoid

Correct Answer:- Option-D

Question29:-Largest chain line passing through the centre of area is known as

- A:-tie line
- B:-check line
- C:-base line
- D:-level line

Correct Answer:- Option-C

Question30:-The sensitivity of a bubble tube can be increased by

- A:-decreasing the radius
- B:-increasing diameter of the tube
- C:-decreasing length of bubble
- D:-increasing viscosity of liquid

Correct Answer:- Option-B

Question31:-Specific gravity of Petrol is approximately

- A:-0.64
- B:-0.74
- C:-0.84
- D:-0.94

Correct Answer:- Option-B

Question32:-Flywheel of two stroke engine when compared with that of four stroke engine will be

- A:-Lighter
- B:-Heavier
- C:-Similar
- D:-No flywheel required

Correct Answer:- Option-A

Question33:-Which among the following is placed between engine and gearbox?

- A:-Differential
- B:-Alternator
- C:-Clutch
- D:-Propeller shaft

Correct Answer:- Option-C

Question34:-Purpose of cooling tower in steam power plant is to

- A:-Condense the steam into water
- B:-Cool down the super heated steam
- C:-Cool down the exhaust from boiler
- D:-Reduce temperature of cooling water used in the condenser

Correct Answer:- Option-D

Question35:-A fast breeder reactor uses following as moderator

- A:-Heavy water
- B:-Light water
- C:-Graphite
- D:-No moderator used

Correct Answer:- Option-D

Question36:-Which of the following statements are **true** in the case of Online UPS

- I. High efficiency
- II. Low harmonic distortion
- III. Inverter turns ON when main fails
- IV. High cost

- A:-I, II and IV
- B:-I, II and III
- C:-II and IV
- D:-I and III

Correct Answer:- Option-C

Question37:-Which of the following statements are **true** for 3G

- I. Offers maximum data rate of 270 Kbps
- II. Multiple access scheme used is WCDMA
- III. Offers high level of security
- IV. High cost

- A:-I, II and III
- B:-II, III and IV
- C:-II and IV
- D:-I and III

Correct Answer:- Option-B

Question38:-Most preferred architecture for a microcontroller is

- A:-Von-Neumann architecture
- B:-Harvard architecture
- C:-Super scalar architecture
- D:-None of these

Correct Answer:- Option-B

Question39:-Which of the following statements are true with regard to full wave bridge rectifier

- I. Peak inverse voltage requirement of diodes used get halved when compared to full wave rectifier with centre tapped transformer
- II. Peak inverse voltage requirement of diodes used get doubled when compared to full wave rectifier with centre tapped transformer
- III. Output voltage considering diode drop is less than that of full wave rectifier with centre tapped transformer
- IV. Output voltage considering diode drop is greater than that of full wave rectifier with centre tapped transformer

- A:-I and II
- B:-I and IV
- C:-II and III
- D:-I and III

Correct Answer:- Option-D

Question40:-Average output voltage of a full wave bridge rectifier without filter for an input voltage of 10V RMS is

- A:- 9.0 V
- B:-4.50 V
- C:-7.07 V
- D:-None of the above

Correct Answer:- Option-A

Question41:-The high strength reinforcement bars having a tough outer core and a soft inner core are called

- A:-MS bars
- B:-TMT bars
- C:-CTD bars
- D:-HYSD bars

Correct Answer:- Option-B

Question42:-The RCC slab supported on all four sides by beam are

- A:-Two-way slab
- B:-Floor
- C:-One-way slab
- D:-Simply supported slab

Correct Answer:- Option-A

Question43:-The reinforcement provided to the columns in order to prevent the buckling of bars are called

- A:-Lateral reinforcement
- B:-Transverse reinforcement
- C:-Longitudinal reinforcement
- D:-Cross reinforcement

Correct Answer:- Option-B

Question44:-The minimum thickness of concrete cover for main reinforcement bars shall not be less than

- A:-25 mm
- B:-75 mm
- C:-50 mm
- D:-100 mm

Correct Answer:- Option-C

Question45:-The Greek symbol τ (tau) (suggesting tangential) is used to denote

- A:-Shear stress
- B:-Bearing stress
- C:-Tension
- D:-Compression

Correct Answer:- Option-A

Question46:-Assumptions in theory of simple bending do not consider

- A:-Homogeneity of the material of the beam
- B:-Elastic limit
- C:-Hooke's law
- D:-Flexure

Correct Answer:- Option-D

Question47:-A line or plane through a beam or plate connecting points at which no extension or compression occurs when it is bent

- A:-Neutral axis
- B:-Centre of gravity
- C:-Lines of failure
- D:-Bending moment

Correct Answer:- Option-A

Question48:-_____ has higher moment resisting capacity.

- A:-Simply supported beam
- B:-Continuous beam
- C:-Fixed beam
- D:-Hinged beam

Correct Answer:- Option-C

Question49:-In a column, when the ratio of effective length to least lateral dimension does not exceed 12, it is called

- A:-Long column
- B:-Short column
- C:-Simply supported column
- D:-Slender column

Correct Answer:- Option-B

Question50:-The eccentricity of a circle is

- A:-1
- B:-`oo`
- C:-0
- D:-Between 1 and 0

Correct Answer:- Option-C

Question51:-The mix ratio of M15 grade concrete is

- A:-1 : 3 : 6
- B:-1 : 2 : 4
- C:-1 : 1 : 5 : 3
- D:-1 : 1 : 2

Correct Answer:- Option-B

Question52:-Hot treated reinforcement bars are also called

- A:-MS Bars
- B:-HYSD Bars
- C:-CTD Bars
- D:-TMT Bars

Correct Answer:- Option-D

Question53:-Which of these is not a sedimentary rock?

- A:-Silt stone
- B:-Sand stone
- C:-Granite
- D:-Lime stone

Correct Answer:- Option-C

Question54:-The brick masonry that has alternating courses of stretchers and headers are called

- A:-Flemish bond
- B:-English bond
- C:-Dutch bond
- D:-Raking bond

Correct Answer:- Option-B

Question55:-The common resin used in waterborne paint is

- A:-Epoxy
- B:-Urethane
- C:-Acrylic emulsion polymers
- D:-Polysiloxane

Correct Answer:- Option-C

Question56:-The bearing capacity of a soil with added factor of safety is called

- A:-Soft bearing capacity
- B:-Ultimate bearing capacity
- C:-Gross bearing capacity
- D:-Net bearing capacity

Correct Answer:- Option-A

Question57:-The windows provided on the roof are called

- A:-Round windows
- B:-Bay window
- C:-Sliding window
- D:-Sky light windows

Correct Answer:- Option-D

Question58:-Tudor arch is a

- A:-Semi circular arch
- B:-2 centred arch
- C:-3 centred arch
- D:-4 centred arch

Correct Answer:- Option-D

Question59:-The staircase commonly used for emergency exits

- A:-Dog legged staircase
- B:-Geometrical staircase
- C:-Spiral staircase
- D:-Newel staircase

Correct Answer:- Option-C

Question60:-The portion of the hoist way of a lift that extend below the level of bottom landing is called

- A:-lift car
- B:-lift saddle
- C:-lift pit
- D:-lift traction

Correct Answer:- Option-C

Question61:-The slope of the pedestrian ramp as specified in the KMBR

- A:-1 : 8
- B:-1 : 10
- C:-1 : 12
- D:-1 : 15

Correct Answer:- Option-B

Question62:-The water requirement per head per day for residential buildings recommended by Indian standards

- A:-135 litres
- B:-150 litres
- C:-165 litres
- D:-185 litres

Correct Answer:- Option-A

Question63:-Flutter echo is caused due to

- A:-Curved surfaces
- B:-Reflective and parallel surfaces
- C:-Reverberation time
- D:-Loudness

Correct Answer:- Option-B

Question64:-The section II of volume 1 of the Kerala PWD schedule of rates deals with

- A:-Rates for labour
- B:-Rates for water supply
- C:-Rates for electrical items

D:-Rates for materials

Correct Answer:- Option-D

Question65:-The principle of chain surveying is based on the method of

A:-Bi section

B:-Tri section

C:-Triangulation

D:-Tetrahedron

Correct Answer:- Option-C

Question66:-An alidade is used to establish/measure

A:-Line of sight

B:-the level

C:-magnetic meridian

D:-centering

Correct Answer:- Option-A

Question67:-The process of turning the telescope of the theodolite about its horizontal axis through 180° in the vertical plane is called

A:-Leveling

B:-Centering

C:-Face left

D:-Transiting

Correct Answer:- Option-D

Question68:-The data model in GIS that represent the world as a surface divided into regular grid of cells

A:-Raster model

B:-Vector model

C:-Thematic model

D:-Point model

Correct Answer:- Option-A

Question69:-The effective temperature does not take into consideration the effect of

A:-Temperature

B:-Radiant heat

C:-Humidity

D:-Air movement

Correct Answer:- Option-B

Question70:-The generic term used for cold winds that flow down the hills into the valleys

A:-Easterlies

B:-Westerlies

C:-Katabatic wind

D:-Misty winds

Correct Answer:- Option-C

Question71:-Identify the city located in composite climatic zone

A:-Delhi

B:-Mumbai

C:-Chennai

D:-Bangalore

Correct Answer:- Option-A

Question72:-The coriolis force is maximum at the

A:-Equator

B:-300 N

C:-Poles

D:-600 S

Correct Answer:- Option-C

Question73:-The radius of neighbourhood unit proposed by Clarence Perry is

A:- $\frac{1}{4}$ mile

B:- $\frac{1}{2}$ mile

C:- $\frac{3}{4}$ mile

D:-1 mile

Correct Answer:- Option-A

Question74:-Which scheme among these is not a slum improvement scheme?

A:-VAMBAY

B:-Site and services

C:-NSDP

D:-ASPIRE

Correct Answer:- Option-D

Question75:-The term used by the Bureau of Indian Standards for the discharge from wash basins, sinks and similar appliances, which does not contain human excreta is

A:-Sullage

B:-Supernatant liquor

C:-Scum

D:-Effluent

Correct Answer:- Option-A

Question76:-The unit of exit width as stipulated in part-IV of NBC for fire safety is,

A:-250 mm

B:-500 mm

C:-750 mm

D:-1000 mm

Correct Answer:- Option-B

Question77:-The earliest of the structural temple among these is

A:-Virupaksha Temple

B:-Brihadeswara Temple

C:-Kailasanatha Temple

D:-Shore Temple

Correct Answer:- Option-D

Question78:-The quote "Less is a bore" is attributed to this architect

A:-Philip Johnson

B:-Robert Venturi

C:-Tadao Ando

D:-Louis Khan

Correct Answer:- Option-B

Question79:-The first cast iron bridge in the world is

A:-Clifton Suspension Bridge

B:-Brooklyn Bridge

C:-Forth railway Bridge

D:-Coalbrookdale Bridge

Correct Answer:- Option-D

Question80:-The Architect of Casa Mila, Spain is

A:-Walter Gropius

B:-Bruno Taut

C:-Antonio Gaudi

D:-Louis Sullivan

Correct Answer:- Option-C

Question81:-The Buddhist prayer hall is called

A:-Chaithya hall

B:-Vihara

C:-Stupa

D:-Pagoda

Correct Answer:- Option-A

Question82:-The public area in Roman cities are called

A:-Agora

B:-Thermae

C:-Forum

D:-Bouleuterion

Correct Answer:- Option-C

Question83:-The performance hall seen in the temples of Kerala are called

A:-Sopanam

B:-Balikkal

C:-Koothambalam

D:-Vilakku Maadam

Correct Answer:- Option-C

Question84:-The management tool, PERT has _____ approach to the time estimate.

- A:-deterministic
- B:-probabilistic
- C:-pessimistic
- D:-optimistic

Correct Answer:- Option-B

Question85:-In project management, this schedule is used for repetitive projects

- A:-LSM
- B:-WBS
- C:-Gantt chart
- D:-Milestone

Correct Answer:- Option-A

Question86:-Parthenon was a

- A:-House
- B:-Temenos
- C:-Market place
- D:-Temple

Correct Answer:- Option-D

Question87:-The Dutch based architectural movement which meant "The Style"

- A:-Constructivism
- B:-Expressionism
- C:-Art Nouveau
- D:-De Stijl

Correct Answer:- Option-D

Question88:-The Architect of Asian Games Village, Delhi is

- A:-BV Doshi
- B:-Achyut Kanvinde
- C:-Raj Rewal
- D:-Charles Correa

Correct Answer:- Option-C

Question89:-Which tree among these is not used for avenue planting?

- A:-Coconut palm
- B:-Pride of India
- C:-Gul Mohar
- D:-Asoka tree

Correct Answer:- Option-A

Question90:-The plant Ixora Coccinea is commonly called

- A:-Shoe flower
- B:-Thuja
- C:-Jungle flame
- D:-Lantana

Correct Answer:- Option-C

Question91:-The method of plant propagation in which a portion of an aerial stem grows roots while still attached to the parent plant and later detaches as an independent plant

- A:-Layering
- B:-Budding
- C:-Grafting
- D:-Separating

Correct Answer:- Option-A

Question92:-The miniature garden set up inside a glass container is called

- A:-Minis
- B:-Mulching
- C:-Bonsai
- D:-Terrarium

Correct Answer:- Option-D

Question93:-Which among these is not considered as an element of interior design?

- A:-Colour
- B:-View
- C:-Texture

D:-Pattern

Correct Answer:- Option-B

Question94:-The minimum slope of the ramp for wheel chair movement according to CPWD guidelines is

A:-1 : 10

B:-1 : 12

C:-1 : 15

D:-1 : 18

Correct Answer:- Option-B

Question95:-Identify the cool colour among these

A:-Brown

B:-Red

C:-Violet

D:-Peach

Correct Answer:- Option-C

Question96:-In illumination, Lumen/square metres is also expressed as

A:-Lux

B:-Candle

C:-Phot

D:-Hertz

Correct Answer:- Option-A

Question97:-KMBR stipulates that in the application for building permit, the site plan shall be provided in a scale not less than

A:-1 : 100

B:-1 : 200

C:-1 : 400

D:- 1: 800

Correct Answer:- Option-C

Question98:-The coverage for commercial buildings according to KMBR is

A:-25

B:-35

C:-40

D:-65

Correct Answer:- Option-D

Question99:-Identify the secondary colour among the following colours

A:-Orange

B:-Yellow

C:-Violet

D:-Red

Correct Answer:- Option-B

Question100:-The special type of trap provided at the junction of house drain with the septic tank or public sewer is called

A:-Intercepting trap

B:-Gully trap

C:-Sill trap

D:-Nahni trap

Correct Answer:- Option-A