PROVISIONAL ANSWER KEY

Question1:-The power consumed by an ac series circuit is maximum when its power factor is

     A:-0

     B:-1

     C:-0.5

     D:-0.8

     Correct Answer:- Option-B

Question2:-The protective measure to avoid electric shock while touching electrical appliances is

     A:-Switch

     B:-Fuse

     C:-Lightning arrester

     D:-Earthing

     Correct Answer:- Option-D

Question3:-What is the unit of apparent power?

     A:-Watt-hour

     B:-Watt-sec

     C:-VA

     D:-Watts

     Correct Answer:- Option-C

Question4:-In an R-C series circuit, the voltage across each element is 50V. The applied voltage is -----

     A:-100V

     B:-70.71v

     C:-57.23V

     D:-50V

     Correct Answer:- Option-B

Question5:-What is the effective resistance of a parallel combination of 2Ω, 3Ω and 6Ω

     A:-1 Ω

     B:-11 Ω

     C:-2 Ω

     D:-3 Ω

     Correct Answer:- Option-A

Question6:-Choose the correct statement

     A:-The CFL bulb is an incandescent one.

     B:-LED bulbs are more efficient than CFL bulbs in terms of power and life.

     C:-LED bulbs are cheaper than CFL bulbs

     D:-CFL bulbs remain cool, when operated

     Correct Answer:- Option-B

Question7:-Which of the following is not a constituent of an electro mechanical relay?

     A:-Spring

     B:-Pivot

     C:-Armature

     D:-Transformer

     Correct Answer:- Option-D

Question8:-The 8051 micro controller has a data memory of

     A:-128 byte RAM

     B:-128 byte ROM

     C:-128 kilobyte RAM

     D:-128 kilobyte ROM

     Correct Answer:- Option-A

Question9:-The modulation used in GSM is

A:-Gaussian Minimum Shift Keying (GMSK)

B:-Amplitude Shift Keying (ASK)

C:-Binary Phase Shift Keying (BPSK)

D:-Quaternary Phase Shift Keying (QPSK)

Correct Answer:- Option-A

Question10:-Which of the following e waste component poses a health hazard?

A:-Lead

B:-Mercury

C:-Cadmium

D:-All of the above

Correct Answer:- Option-D

Question11:-In internal combustion engine, the total energy losses due to pumping and friction converted into power is termed as

A:-Brake power

B:-Indicated power

C:-Friction power

D:-Total engine power

Correct Answer:- Option-C

Question12:-Which among the following statement is correct?

A:-In four-stroke engines, the cooling and lubrication requirement is lesser than in two-stroke engines.

B:-A lighter flywheel is needed for four-stroke engines than two-stroke engines.

C:-In two-stroke engines, volumetric efficiency is more due to greater time of induction.

D:-In four-stroke engines, in each revolution of the crankshaft, four power strokes are obtained.

Correct Answer:- Option-A

Question13:-The basic function of clutch is to

A:-support a moving element and to confine its motion

B:-transmit power from one shaft to other over considerable distances

C:-measure forces and energy

D:-control flow of mechanical power within a machine

Correct Answer:- Option-D

Question14:-In a thermal (steam) power plant, the feed water is preheated in --------

A:-Air preheater

B:-Economiser

C:-Condenser

D:-Boiler

Correct Answer:- Option-B

Question15:-In a hydroelectric power plant, the level of water stored in reservoir is known as ------

A:-Hydraulic head

B:-Tail water level

C:-Headrace

D:-Spillway level

Correct Answer:- Option-C

Question16:-A matrix A is said to be singular if

A:-$|A| != 0$

B:-$|A| = 0$

C:-$A^{T} = A$

D:-$A^{-1} = A$

Correct Answer:- Option-B

Question17:-Let A = $[[1,2,3],[0,5,0],[2,4,3]]$.

The cofactor is 5 is

A:-0

B:-6

C:-3

D:--3

Correct Answer:- Option-D

Question18:-If $\Delta_{1}= [[1,0,0],[2,3,0],[-1,5,-3]]$ and $\Delta_{2}=[[-3,5,-1],[0,3,2],[0,0,1]]$, then

A:-$\Delta_{1}= 2\Delta_{2}$

B:-$\Delta_{1}=\Delta_{2}$

C:-$\Delta_{1}=-\Delta_{2}$

D:-`2Delta_(1)=Delta_(2)`

Correct Answer:- Option-B

Question19:-The coefficient of `p^(2)q^(3)` in the expansion of `(2p-3q)^(5)` is

A:--1080

B:-720

C:--720

D:-1080

Correct Answer:- Option-A

Question20:-sin 390 tan 30 + sin 120 is

A:-`(1)/(2)`

B:-`sqrt(3)/(2)`

C:-`(2)/sqrt(3)`

D:-1

Correct Answer:- Option-C

Question21:-The equation of a straight line making an angle 135° with positive direction of x-axis and cutting an intercept 5 on y axis is

A:-y=x+5

B:-y=5x+1

C:-y=5-x

D:-y=5x-1

Correct Answer:- Option-C

Question22:-`lim_(x->oo)(1+x)^(1/x)` is

A:-`oo`

B:-e

C:-1

D:-`(1)/(e)`

Correct Answer:- Option-B

Question23:-The sum of two numbers is 2. Find the smallest value possible for the sum of the square of one number and the cube of the other

A:-1.9354

B:-6

C:--2.9

D:-5.3583

Correct Answer:- Option-A

Question24:-`int (dx)/((4+x^(2))^(3/2) ` is

A:-`(3)/(2)(4+x^2)^(1/2) + c`

B:-`(4)/sqrt(4+x^2)+ c`

C:-`(x)/(4sqrt(4+x^(2)))` +c

D:-`(x)/(2)+c`

Correct Answer:- Option-C

Question25:-The solution of `dy/dx=(y)/(x(x+1))`

A:-y (x+1)=c

B:-xy=c(1+x)

C:-x(x+y)=cy

D:-y(x+1)=cx

Correct Answer:- Option-D

Question26:-If A is a matrix then A(adj A) is

A:-|A|

B:-`A^(-1)`

C:-|A| I

D:-I

Correct Answer:- Option-C

Question27:-Inverse of the matrix A = `[[cos prop,-sin prop],[sin prop,cos prop]] is`

A:-`[[cos prop, sin prop],[-sin prop, cos prop]]`

B:-`[[-cos prop,-sin prop],[sin prop,-cos prop]]`

C:-`[[cos prop,-sin prop],[-sin prop,-cos prop]]`

D:-`[[-cos prop,sin prop],[sin prop,cos prop]] `

Correct Answer:- Option-A

Question28:-The value of x satisfying the following system is 2x-y+33=8; -x+2y+3=4; 3x+y-43=0

A:--2

B:-2

C:-4

D:-0

Correct Answer:- Option-B

Question29:-Co-efficient of `x^(2)` in the series expansion of `sqrt(4+x)`

A:-64

B:-`(-1)/(64)`

C:-512

D:-`(1)/(64)`

Correct Answer:- Option-D

Question30:-cos t + tan t sin t is

A:-cos t

B:--sec t

C:-cosec t

D:-sec t

Correct Answer:- Option-D

Question31:-The angle between the lines y=`sqrt(3)x+4 and y=(x)/sqrt(3)+2`

A:-90°

B:-60°

C:-30°

D:-0°

Correct Answer:- Option-C

Question32:-The points of discontinuity of f(x)= lxl - 1x-1l are

A:-x=0,1

B:-x=0

C:-x=1

D:-None of the above

Correct Answer:- Option-D

Question33:-The equation to tangent to the curve f(x)=(x+2) (2x+1)² at x = -1 is

A:-y=3x+2

B:-y=3-2x

C:-y=-3x-2

D:-y=2x+3

Correct Answer:- Option-C

Question34:-`int ln(x) dx` is

A:-ln(x) + c

B:-`(1)/(x)+ c`

C:-n ln(x) + c

D:-x ln(x) -x+c

Correct Answer:- Option-D

Question35:-Solution of (1+`x^(2))y^(1) = x(1-y) is`

A:-y=1+`(c)/sqrt(1+x^(2))`

B:-y=`sqrt(1+x^(2))+c`

C:-y=1+c`sqrt(1+x^(2))`

D:-y`sqrt(1+x^(2))=c`

Correct Answer:- Option-A

Question36:-What type of levelling is done if all the readings are taken with a single set up of Dumpy Level?

A:-Continuous Levelling

B:-Differential Levelling

C:-Compound Levelling

D:-Simple Levelling

Correct Answer:- Option-D

Question37:-Which among the following is called fine aggregate?

A:-Aggregates passing through 4.75mm IS sieve

B:-Aggregates retained on 4.75mm IS sieve

C:-Aggregates passing through 0.15mm IS sieve

D:-Aggregates retained on 0.15mm IS sieve

Correct Answer:- Option-A

Question38:-Which of the following is called a deep foundation?
    A:-Raft foundation
    B:-Combined footing
    C:-Well foundation
    D:-Trapezoidal footing
    Correct Answer:- Option-C
Question39:-Which of the following is called as Beam section?
    A:-Rolled steel angle sections
    B:-TOR steel
    C:-Rolled steel tubes
    D:-Rolled steel I sections
    Correct Answer:- Option-D
Question40:-Which instrument is used for setting right angles in a chain survey?
    A:-Plumb bob
    B:-Cross staff
    C:-Peg
    D:-Offset rod
    Correct Answer:- Option-B
Question41:-Choose correct alternative from the followings:
    A:-For cotton fiber, longer the fiber, finer it is
    B:-For cotton fiber, longer the fiber, coarser it is
    C:-For cotton fiber, longer the fiber, more non-uniformity it gets
    D:-None of the above combinations
    Correct Answer:- Option-A
Question42:-The hollow space in cotton is known as:
    A:-Lumen
    B:-Stomas
    C:-Medulla
    D:-Pores
    Correct Answer:- Option-A
Question43:-With an increase of moisture content, the strength of a Nylon filament
    A:-Increases
    B:-Decreases
    C:-First increases then decreases
    D:-First decreases then increases
    Correct Answer:- Option-B
Question44:-Which of the following fibers has excellent elastic recovery?
    A:-Cotton
    B:-Polyester
    C:-Nylon
    D:-Viscose
    Correct Answer:- Option-C
Question45:-Which of the following fibres has excellent crease resistant?
    A:-Cotton
    B:-Polyster
    C:-Nylon
    D:-Viscose
    Correct Answer:- Option-B
Question46:-Birefringence of a fibre is the measure of
    A:-Dynamic modulus
    B:-Density
    C:-Orientation
    D:-Crystallinity
    Correct Answer:- Option-C
Question47:-The presence of functional groups in a fibre can be best determined by
    A:-IR spectroscopy
    B:-NMR spectroscopy
    C:-Differential scanning calorimeter
    D:-X-ray spectroscopy

Correct Answer:- Option-A

Question48:-Analysis of fiber structure by means of diffraction of electromagnetic waves is more compatible with x-rays than with ordinary visible light because

    A:-X-rays has higher energy than ordinary light

    B:-X-rays has wave lengths smaller than ordinary light

    C:-It is easy to get picture or photographs with x-rays

    D:-Wave lengths are comparable with crystallite sizes of fibre

    Correct Answer:- Option-D

Question49:-Electromagnetic waves used in NMR spectroscopy is

    A:-Ultra-violet rays

    B:-Radio waves

    C:-Gamma rays

    D:-Infra-red rays

    Correct Answer:- Option-B

Question50:-The helix reversal is found in

    A:-Jute

    B:-Wool

    C:-Silk

    D:-Cotton

    Correct Answer:- Option-D

Question51:-If initial modulus and moment of inertia of a fibre are denoted by E and I, respectively, the bending rigidity of the fibre is expressed as

    A:-E/I

    B:-I/E

    C:-EI^2

    D:-EI

    Correct Answer:- Option-D

Question52:-Which one of the following statements is wrong?

    A:-The density is same for both cotton and viscose

    B:-The degree of polymerization is same for both cotton and viscose

    C:-Both cotton and viscose are hydrophilic fibres

    D:-Both cotton and viscose are the cellulosic fibres

    Correct Answer:- Option-B

Question53:-Which one of the following statements is correct with respect to a textile fibre?

    A:-It is transversely isotropic

    B:-The primary bond strength is weaker than secondary bond.

    C:-Essentially it is made of short chain molecules.

    D:-It is having very high density.

    Correct Answer:- Option-A

Question54:-Which one of the following statements is true?

    A:-Glass is 100% crystalline fibre.

    B:-Polypropylene is 100% amorphous fibre.

    C:-Cotton is 50% crystalline fibre.

    D:-Wool is 30% crystalline fibre.

    Correct Answer:- Option-D

Question55:-Water acts as catalyst for the production of

    A:-Nylon 6

    B:-Acrylic

    C:-Viscose

    D:-Polyester

    Correct Answer:- Option-A

Question56:-Which of the following fibre properties is not governed by its amorphous content?

    A:-Dye uptake

    B:-Moisture content

    C:-Extensibility

    D:-Friction

    Correct Answer:- Option-D

Question57:-Which one of the following is the correct order in a DSC heating plot with increasing temperature?

    A:-Glass transition, crystallization, melting

B:-Melting, glass transition, crystallization

C:-Crystallization, glass transition, melting

D:-Glass transition, melting, crystallization

Correct Answer:- Option-A

Question58:-Which one of the synthetic filament properties is not controlled by the drawing?

A:-Orientation

B:-Crystallinity

C:-Birefringence

D:-Molecular weight

Correct Answer:- Option-D

Question59:-Which one of the following materials has highest strength/weight ratio?

A:-Steel

B:-Nylon

C:-Kevlar

D:-Polyester

Correct Answer:- Option-C

Question60:-Ziegler-Natta catalyst is essential for the production of

A:-Kevlar

B:-Polypropylene

C:-Acrylic

D:-Cellulose triacetate

Correct Answer:- Option-B

Question61:-If d is the fibre diameter, air-flow rate through a plug of fibres is proportional to

A:-$sqrt(d)$

B:-d

C:-$d^(2)$

D:- $d^(3)$

Correct Answer:- Option-C

Question62:-For a square cut polyester staple fibre, length uniformity index is

A:-0.5

B:-0.5128

C:-0.5328

D:-1

Correct Answer:- Option-D

Question63:-INSTRON® tensile tester works on $INSTRON^(o.)$

A:-CRL principle

B:-CRE principle

C:-CRT principle

D:-CRS principle

Correct Answer:- Option-B

Question64:-As the time to beak increases

A:-Yarn strength decreases

B:-Yarn strength increase

C:-Yarn strength does not change

D:-Yarn strength first decreases and then increases

Correct Answer:- Option-A

Question65:-Most suitable test for parachute fabric is

A:-Tensile strip strength

B:-Bursting strength

C:-Tearing strength

D:-Tensile grab strength

Correct Answer:- Option-B

Question66:-Three verities of cotton fibres of 4.5, 5 and 4.0 micronaire values are blended in weight proportions of 30%, 20% and 50%, respectively. The average micronaire value of mixing is

A:-4.32

B:-4.35

C:-4.40

D:-4.34

Correct Answer:- Option-A

Question67:-If the front top roller of a ring frame having diameter of 1 inch becomes eccentric, at what wave length of spectrogram do you expect a peak?

 A:-8 cm

 B:-2.54 cm

 C:-4 cm

 D:-1.27 cm

 Correct Answer:- Option-A

Question68:-8 slivers each with a CVm of 2.8% are fed to a draw frame. If the draw frame adds a CVm of 1%, what will be the CVm of ouput sliver?

 A:-3.8%

 B:-1.1%

 C:-1.41%

 D:-1.8%

 Correct Answer:- Option-C

Question69:-Low strength mechanical properties are strongly correlated with

 A:-Fabric thermal comfort

 B:-Fabric drape

 C:-Fabric dimensional stability

 D:-Fabric handle

 Correct Answer:- Option-D

Question70:-Which one of the following parameters has no influence on air permeability?

 A:-Fabric cover factor

 B:-Yarn twist density

 C:-Fabric stiffness

 D:-Fabric porosity

 Correct Answer:- Option-C

Question71:-What is the GSM (g/m²) of a square jammed plain cloth made from 20 tex cotton yarns of 0.17 mm diameter?

 A:-154

 B:-164

 C:-264

 D:-364

 Correct Answer:- Option-B

Question72:-Which one of the following statements is false?

 A:-Equally strong but more extensible yarn will lead to higher grab strength.

 B:-The grab strength of a fabric is higher than its strip strength.

 C:-Tear resistance of a fabric is only a fraction of its tensile resistance.

 D:-The grab strength of a fabric reduces as the fabric width increases.

 Correct Answer:- Option-D

Question73:-If same yarn is used for both wrap and weft, maximum fabric thickness is

 A:-Three times of yarn diameter

 B:-Two times of yarn diameter

 C:-Four times of yarn diameter

 D:-Yarn diameter

 Correct Answer:- Option-A

Question74:-Thermal resistance values of fabrics in an assembly are

 A:-Multiplicative

 B:-Substractive

 C:-Additive

 D:-Average

 Correct Answer:- Option-C

Question75:-Shear stress vs. shear strain curve of a fabric shows

 A:-Linearity with hysteresis

 B:-Nonlinearity with hysteresis

 C:-Linearity without hysteresis

 D:-Nonlinearity with hysteresis

 Correct Answer:- Option-B

Question76:-Self-twist spinning is most suitable for

 A:-Cotton

 B:-Jute

C:-Flax

D:-Wool

Correct Answer:- Option-D

Question77:-For same count, rotor yarn TM is

A:-2 times greater than that of ring yarn.

B:-10-15 % greater than ring yarn.

C:-Same as ring yarn.

D:-10-15% lower than ring yarn.

Correct Answer:- Option-B

Question78:-In case of Mélange yarn production, with the increase of shade depth

A:-Yarn quality deteriorates

B:-Yarn quality remains same

C:-Yarn quality improves

D:-Yarn quality firstly improves and then deteriorates

Correct Answer:- Option-A

Question79:-In case of air-vortex spinning

A:-All fibres start from the centre of the yarn and run outside.

B:-All fibres start from the surface of the yarn and run inside.

C:-Core fibres are parallel and the sheath fibres are wrapped over the core fibres

D:-Core fibres have a twist direction which is different from the sheath fibres

Correct Answer:- Option-A

Question80:-In comparison with the ring spun yarn, air-jet spun yarn is

A:-Weaker, stiffer and harder

B:-Stronger, softer and smoother

C:-Weaker, bulkier and harsher

D:-Stronger, hairier and evener

Correct Answer:- Option-A

Question81:-Feed per nip of comber is around

A:-2 mm

B:-6 mm

C:-12 mm

D:-18 mm

Correct Answer:- Option-B

Question82:-Self-cleaning action in a comber

A:-Increases with batt weight

B:-Decreases with batt weight

C:-Does not change with batt weight

D:-Decrease with fibre disorientation

Correct Answer:- Option-A

Question83:-Quality of combing is better in

A:-Forward feed

B:-Backward feed

C:-Mixed feed

D:-Differential feed

Correct Answer:- Option-B

Question84:-Which machine in the spinning line is termed as necessary evil for producing ring spun yarn?

A:-Card

B:-Comber

C:-Ring frame

D:-Speed frame

Correct Answer:- Option-D

Question85:-Pressure bar in draw frame is used to

A:-Apply pressure to the front top roller.

B:-Apply pressure to the middle top roller.

C:-Control the long fibre movement.

D:-Control the short fibre movement.

Correct Answer:- Option-D

Question86:-Yarn tension during winding is proportional to the

A:-$(Yarn tex)^{(2)}$

B:-`sqrt(Yarn tex)`

C:-Yarn tex

D:-` (1)/(Yarn tex)`

Correct Answer:- Option-C

Question87:-A 3.5 crossing drum means there are

A:-1.75 turns in a double traverse

B:-3.5 turns in a double traverse

C:-7 turns in a double traverse

D:-10.5 turns in a double traverse

Correct Answer:- Option-C

Question88:-A loom is weaving the design of 1 up 2 down twill. If the loom is running at 240 rpm, the speed of tappet shaft will be

A:-60 rpm

B:-120 rpm

C:-80 rpm

D:-240 rpm

Correct Answer:- Option-C

Question89:-A Jacquard design is repeating on 20 cm along length and 12 cm along width. If the fabric has 30 ends and 24 picks per cm, the Jacquard capacity is

A:-240

B:-580

C:-360

D:-480

Correct Answer:- Option-C

Question90:-A loom of 500 cm width is running at 800 picks/min. The weft insertion rate of the loom is

A:-800 m/min

B:-4000 m/min

C:-500 m/min

D:-5000 m/min

Correct Answer:- Option-B

Question91:-On a Sulzer® projectile loom, the number of projectiles depends on

A:-Projectile mass

B:-Torsion-bar arrangement

C:-Loom width

D:-Projectile length

Correct Answer:- Option-C

Question92:-Which one of the following phenomena cannot be described by Poisson distribution

A:-Number of warp breakage on a loom

B:-Number of fabric defects / square meter

C:-Number of fibres in the yarn cross-section

D:-Strength of the warp yarn

Correct Answer:- Option-D

Question93:-If 1 Km of yarn produces 900 m fabric, the yarn crimp in the fabric is

A:-10%

B:-9%

C:-11.1%

D:-10.9%

Correct Answer:- Option-C

Question94:-Indigo is a

A:-Vat dye

B:-Cationic dye

C:-Acid dye

D:-Disperse dye

Correct Answer:- Option-A

Question95:-Dyeing of acrylic is carried out by using

A:-Vat dye

B:-Cationic dye

C:-Acid dye

D:-Disperse dye

Correct Answer:- Option-B

Question96:-Acid dyes are held on fabric by means of
    A:-Covalent bond
    B:-Vander wall force
    C:-Electrostatic force
    D:-Electromagnetic force
    Correct Answer:- Option-C

Question97:-Sublimation transfer printing is most suitable for
    A:-Cotton
    B:-Polyster
    C:-Silk
    D:-Acrylic
    Correct Answer:- Option-B

Question98:-For printing with reactive dye, most suitable thickener is
    A:-Sodium chloride
    B:-Sodium hypochlorite
    C:-Sodium chlorite
    D:-Sodium alginate
    Correct Answer:- Option-D

Question99:-Mercerization of a cotton fabric is carried out by
    A:-Sodium chloride
    B:-Sodium hypochlorite
    C:-Sodium hydroxide
    D:-Sodium chlorite
    Correct Answer:- Option-C

Question100:-For a satin weave (warp face)
    A:-Picks/cm is greater than ends/cm.
    B:-Ends/cm is greater than picks/cm.
    C:-Ends/cm is equal to picks/cm.
    D:-Ends/cm is just less than picks/cm.
    Correct Answer:- Option-B