## UPPCL JE

Previous Year Paper Electrical 8 Sept 2021
(Shift 2)


Section : Domain Knowledge
Q. 1 What is the aim of all energy conservation techniques?

Ans $\quad$ A. To experiment with new energy sources
B. To reduce energy losses

X C. To promote non-renewable energy sources
X D. To replace old equipment with new ones
Q. 2 Which of the following is the correct sequence of steps in a coal handling system?

Ans $\times$ A. Preparation, Inplant handling, Furnace firing, Coal delivery
B. Coal delivery, Preparation, Inplant handling, Furnace firing

X C. Coal delivery, Preparation, Furnace firing, Inplant handling
X D. Inplant handling, Furnace firing, Coal delivery, Preparation
Q. 3 The average current rating of a semiconductor diode will be maximum for:

Ans $\quad$ A. half-wave rectified ac
B. full-wave rectified ac
C. pure dc
D. pure ac
Q. 4 For transformers above 1000 KVA rating, inspection of Buchholz relay is carried out:

Ans $\quad$ A . every year
X B. every 4 years
C. every 2 years

X D. every 3 years
Q. 5 Intermediate switch is also called the $\qquad$ _.
Ans $\quad \times$ A. one-way switch
B. four-way switch

X C. two-way centre-off switch
X D. two-way switch
Q. 6 Which of the following is NOT an example of inert gas welding?

Ans
A. Thermit welding
B. TIG welding
C. MIG welding
D. MAG welding
Q. 7 Which of the following is NOT a valid advantage of underground system of electrical distribution as compared to overhead system?
Ans
Х A. Decent appearance
X B. Long life
X C. Less maintenance
D. Low cost
Q. 8 In common collector configuration of transistor, the voltage gain is always:

Ans
A. less than unity
B. infinity

Х C. greater than unity
D. zero
Q. 9 The wave used to minimise heat dissipation in the switching transistor of an SMPS is a:

Ans $\quad \times$ A. triangular wave
B. sine wave
C. saw-tooth wave
D. square wave
Q. 10 Which of the following faults is least likely to occur in power systems?

Ans $\times$ A. L-L

- B. L-L-L
$\times$ C. L-L-G
X D. L-G
Q. 11 Which of the following heating elements is suitable for the highest temperature?

Ans
X A. Nichrome
B. Plastic
C. Tungsten
D. Silicon carbide
Q. 12 A 2000/200 V transformer absorbs 400 Watts. Find the iron loss current.

Ans $\times$ A. 5.0 A
B. 2.0 A
C. 0.5 A
D. 0.2 A
Q. 13 For the same power output, which power plant of the following has minimum operating charges?
Ans
A. Hydel plant
$X$ B. Nuclear plant
X C. Thermal plant
$\times$
D. Gas turbine plant
Q. 14 Which of the following is a conventional source of energy?

Ans $\quad \times$ A. Wind
X B. Biomass
C. Fossil fuels

X D. Solar energy
Q. 15 Which of the following statements is INCORRECT for HVDC transmission?

Ans $\quad$ A. Corona losses are less as compared to a.c. transmission.
X B. Charging current is absent.
$\times$ C. It operates at unity power factor.

- D. It suffers from skin effect.

Question ID : 9277593706
Status: Answered
Chosen Option : D
Q. 16 Which of the following semiconductor devices can be used in enhanced mode?

Ans
A. MOSFET

X B. JFET
X C. NPN transistor
X D. UJT
Q. 17 To increase the voltage range of an analogue voltmeter an additional resistance is added in series with the meter resistance. This additional resistance is called $\qquad$ -.
Ans
A. multiplier

X B. divider
X C. shunt
$X$ D. short
Q. 18 The energy conservation building code is applicable to $\qquad$ .
Ans $\times$ A. open lands and farms only
X B. old buildings only
C. new buildings onlyD. old as well as new buildings
Q. 19 Which of the following methods of welding does NOT require electrode?

Ans $\quad$ A. Plasma arc welding
B. Laser beam welding

X C. TIG welding
X D. Resistance welding
Q. 20 Because of corona, in case of AC transmission, $\qquad$ harmonics are always present.
Ans
A. 3rd

X B. 7th
X C. 11th
X D. 5th
Q. 21 What is the minimum requirement of connected load in a new building for the energy conservation building code to be applicable?
Ans
A. 100 kW
B. 10 MW
C. 1000 kW
D. 500 kW
Q. 22 If the shunt admittance of a transmission line is ignored, the torque angle at which maximum power will occur is
Ans
А. $\pi / 2$
B. $-\pi / 2$
C. $\pi / 4$
D. $\pi$
Q. 23 The base of octal number system is $\qquad$ -.

Ans $\times$ A. 10
X B. 16
C. 8

X D. 2
Q. 24 Which of the following frequency meters works on the heterodyne principle?

Ans
$X \mathrm{~A}$. Wien bridge frequency meter
B. Zero beat frequency meter

X C. Oscilloscope
X D. Digital frequency counter
Q. 25 In case of ETAP software, the full form of ETAP is:

Ans $\quad$ A. Estimation of Transient Analysis of Power
X B. Electrical Testing and Analysis Program
C. Electrical Transient Analyzer ProgramD. Electrical Transformer Analysis Program
Q. 26 As per classical organisation theory, a supervisor CANNOT directly supervise the work of more than $\qquad$ subordinates.
Ans
XA. 8 to 10
XB. 1 to 2
C. 5 to 6

X D. 12 to 15
Q. 27 Which of the following is an application of induction heating?

Ans $\quad$ A. Room heater
X B. Wood gluing
C. Brazing
D. Immersion water heater
Q. 28 For a single-phase $250 / 3000$ volts, 50 Hz transformer, the EMF per turn is 8 volts. Find the number of secondary turns.
Ans
A. 375

X B. 32
Xc. 325

X D. 48
Q. 29 With reference to the AC and DC transmission, state whether the following statements are true/false.

1. In AC transmission, power is proportional to the product of the line end voltages.
2. In DC transmission, power is proportional to the difference of the line end voltages.

Ans
A. 1-True, 2 - True
B. 1 - False, 2 - True
XC. 1 - True, 2 - False

X D. 1 - False, 2 - False
Q. 30 Which of the following materials can serve the purpose of acceptor impurity for obtaining p type semiconductor?
Ans

- A. Gallium
B. Arsenic
C. Phosphorus
D. Antimony
Q. 31 The set of horizontal and vertical lines permanently marked on the CRT screen is called:

Ans $\times$ A. aquadag
B. control grid
C. focusing anode
D. graticule
Q. 32 Which of the following softwares is used for programming of embedded devices?

Ans $\times$ A. PSCAD
$X$ B. ETAP
X C. Multisim
D. Keil uVision
Q. 33 Operation of stepping motors at high speeds is called $\qquad$ .
Ans $\times$ A. inching
X B. fast forward
C. slewing
D. jogging
Q. 34 Which part of the steam power plant converts mechanical energy into electrical energy?

Ans
A. Generator

X B. Boiler
$\chi$ C. Furnace
X D. Turbine
Q. 35 In Nominal-T configuration of medium transmission line, the shunt capacitance is assumed to be:
Ans $\quad \times$ A. concentrated at the receiving end of the line
$\times$ B. concentrated at the sending end of the line
C. concentrated at the middle of the line

X D. distributed equally throughout the length
Q. 36 Which element of the flowchart is used to begin and end the programs?

Ans $\times$ A. Rectangle box
X B. Diamond
C. Bubble
$\times$
D. Arrow
Q. 37 What is the unit of measurement for slew rate of an op-amp?

Ans
$\times$ A. Ampere
X B. dB
XC.nA
D. V/ $\mu \mathrm{s}$
Q. 38 In case of IDMT over current relay, IDMT means:

Ans $\quad \times$ A. Inverse Differential Minimum Time
X B. Inverse Definite Maximum Time
X C. Inverse Differential Maximum Time

- D. Inverse Definite Minimum Time

Question ID : 9277593728
Status: Answered
Chosen Option : D
Q. 39 Which of the following methods of cleaning is NOT suitable for electrical equipment?

Ans
X A. Non-conductive sandblasting
B. Shot blasting
$\times$ C. Brushing
D. Vacuum cleaning
Q. 40 While using analogue meters, which error may result if the line of sight is NOT exactly perpendicular to the measuring scale?
Ans
A. Parallax error

X B. Friction error
X C. Scale error
X D. Loading error
Q. 41 Normally, overhauling is performed at an interval of $\qquad$ ـ.
Ans $\times$ A. 1 week
B. 5 years
XC. 1 month
D. 6 months
Q. 42 Which of the following IC logic families has minimum value of fan-out?

Ans $\times$ A. ECL
B. CMOS
C. Low power Schottky TTL
D. Standard TTL
Q. 43 In which of the following methods of welding is a transducer used to convert high frequency electric power into vibratory energy?
Ans
A. Ultrasonic welding
B. DC arc welding
C. MIG welding
$\times$ D
D. Resistance welding
Q. 44 A relay with 5A rating is having the relay setting of 125 percent. Find the operating current of the relay.
Ans
XA.3.75A
$\times$ B
B. 10 A
C. 6.25 A

X D. 5A
Q. 45 Which of the following is a semiconductor material?

Ans
× A. Bakelite
X B. Brass
$\times$
C. Asbestos
D. Germanium
Q. 46 In production planning and control system, $\qquad$ means estimation of type, quantity and quality of future work.
Ans
A. forecasting

Х B. data processing
$\chi$ C. scheduling
X D
D. dispatching
Q. 47 Which of the following is INCORRECT for an ideal transformer?

Ans
A. Zero permeability

X B. Zero winding resistance
X C. Zero leakage flux
$\times \mathrm{D}$
D. No losses
Q. 48 Ladder diagram is associated with

Ans
A. PLC
B. SCADA

X C. microprocessor
D. microcontroller
Q.49 A stepper motor has a step angle of $3^{\circ}$. Determine the number of steps required for the shaft to make 25 revolutions.
Ans
XA. 300
X B. 600
C. 3000
D. 6000
Q. 50 For a 4-pole simplex wave-wound DC generator, number of parallel paths will be

Ans $\times$ A. 8
B. 2
XC. 4

X D. 1
Q. 51 A temperature reading is recorded as $25.70^{\circ} \mathrm{C}$. The number of significant figures in the reading is $\qquad$
Ans $\times$ A. 5
Х в. 3
X с. 2
D. 4

Question ID: 9277593618 Status: Answered
Chosen Option: D
Q. 52 Which of the following binary code is also called gray code?

Ans $\times$ A. BCD code
B. Reflected code

X C. Biquinary code
X D. Excess-3 code
Q. 53 Which diode is represented by the given symbol?


Ans
X A. Photo diode
X B. Zener diode
$\times$ C. Tunnel diode
D. LED
Q. 54 In 8051 microcontroller, the flags are all stored in the $\qquad$ _.

Ans $\times$ A. accumulator
X B. program counter
X C. stack pointer

- D. PSW

Question ID : 9277593741
Status: Answered
Chosen Option: A
Q. 55 Laws of Electrolysis were formulated by

Ans $\quad$ A. Alexander Fleming
B. Michael Faraday

X C. Lord Kelvin
X D. Max Planck
Q. 56 Which of the following practices is an example of a medium-term energy conservation scheme?

Ans
A. Improvement and low-cost modifications in existing system
B. Repairs of system or leakages

X C. Minimisation of excess combustion air in furnace
X D. Improved housekeeping
Q. 57 Which of the following devices has only two terminals?

Ans

- A. DIAC

X B. SCR
X C. UJT
$\chi$ D. TRIAC
Q. 58 The real part of the propagation constant of a transmission line is:

Ans $\times$ A. phase constant
B. attenuation constant
C. stability constant
D. reliability factor
Q.59 An atom of hydrogen has in its first orbit.
Ans $\quad$ A. 8 electrons
X B. 2 electrons
C. 1 electron

X D. 4 electrons

Question ID : 9277593629
Status: Answered
Chosen Option: C
Q. 60 The ripple factor of a power supply is the ratio of:

Ans $\quad$ A. peak value to $D C$ value
X B. RMS value to peak value
C. RMS value to DC value

X D. peak value to RMS value
Q. 61 A 2-input gate gives high output only when both the inputs are low. For all other conditions the output remains low. Identify the gate.
Ans $X A . N A N D$
X B. EX-OR
$\times$ c. OR
D. NOR
Q. 62 Simulink is the GUI based companion software for

Ans
A. MATLAB

X B. LabVIEW
C. MAGNET
D. ETAP
Q. 63 Which of the following gates is also called universal gate?

Ans
A. NOR
$\times$ B. NOT
X C. EX-OR
$\times$ D. AND
Q. 64 A pressure gauge is calibrated between 100 bar and 350 bar. The scale span is

Ans
X A. 450 bar
Х B. 100 bar
X C. 350 bar
D. 250 bar
Q. 65 Iron-Constantan thermocouple is commercially known as $\qquad$ thermocouple.
Ans
A. J-type

X B. E-type
X C. K-type
X D. T-type
Q. 66 The ratio of the luminous flux to the power input is called

Ans $\times$ A. beam factor
X B. absorption factor
C. Iamp efficiency
D. utilisation factor
Q. 67 What is the ohms/volt rating of a voltmeter with a 1 mA movement?

Ans
X A. $10 \Omega / \mathrm{V}$
B. $1000 \Omega / \mathrm{V}$
C. $100 \Omega / \mathrm{V}$
D. $10000 \Omega / \mathrm{V}$
Q. 68 Boiler efficiency can be improved by $\qquad$ due to economiser.
Ans $\times$ A. 12 to 15 percent
B. 4 to 10 percent

X C. 20 percentD. 1 to 2 percent
Q. 69 In a three-phase induction motor, the maximum torque is independent of:

Ans $\times$ A. rotor reactance
B. rotor resistance

X C. synchronous speed
X D. applied voltage
Q. 70 In electrodynamometer movement, the deflection of the pointer is:

Ans
A. inversely proportional to the current
B. directly proportional to the current

C C. inversely proportional to the current squared
D. directly proportional to the current squared

Question ID : 9277593619
Status: Answered
Chosen Option : D
Q. 71 In an op-amp, the differential mode gain is

Ans
X A. always zero
B. very high

X C. always unity
D. very low
Q. 72 Which of the following is NOT a valid type of DC motor?

Ans $\quad$ A. Series motor
X B. Separately excited motor
C. Squirrel cage motor
D. Shunt motor
Q. 73 Which of the following is a bidirectional device?

Ans $\quad \times$ A. GTO
XB.SCR
C. TRIAC

X D. PN diode
Q. 74 A single input gate in which input and output are same is called

Ans $X A$. AND
X B. EX-NOR

- C. buffer

X D. inverter
Q. 75 Which of the following materials is NOT used for the filament of incandescent lamp?

Ans
$\times$ A. Carbon
X B. Tungsten
X C. Tantalum
D. Silver

Question ID : 9277593752
Status: Answered
Chosen Option: A
Q. 76 In case of AC transmission at 132 kV using 3-phase single circuit cables, the charging kVA is $\qquad$
Ans
A. 1250 kVA
B. 3125 kVA
C. 9375 kVA
D. 1500 kVA

Question ID : 9277593707
Status: Not Answered
Q. 77 Which of the following type of material is used to construct variable reluctance motor?

Ans
X A. Non-magnetic
B. Ferromagnetic

X C. Paramagnetic
Х D. Diamagnetic
Q. 78 Which of the following is an alloy of aluminium?

Ans $\times$ A. Brass
X B. German silver
C. HindaliumD. Monel metal
Q. 79 In a 6-pole DC machine, 45 mechanical degrees corresponds to $\qquad$ electrical degrees.
Ans $\times$ A. 90
B. 135

X C. 180
X D. 45
Q. 80 The 1's complement of the binary number $(101100)_{2}$ is:

Ans
X A. $(001100)_{2}$
$\checkmark$ B. $(010011)_{2}$
Xc. $(101101)_{2}$

X D. $(110011)_{2}$
Q. 81 Which of the following methods of speed control of induction motor can be only used for wound rotor type induction motor?
Ans
X A. Stator frequency control
X B. Stator voltage and frequency control

- C. Rotor resistance control

X D. Stator voltage control
Q. 82 Which part of a motor needs maximum attention for maintenance?

Ans
, A. Bearing
$X$ B. Rotor winding
X C. Stator winding
$\chi$ D. Frame
Q. 83 Which logic gate is represented by the given symbol?


Ans
X A. AND
B. NOT
$\times$ C. OR
X D.EX-OR
Q. 84 Which of the following shows job titles and their relationships to each other in an organisation?
Ans $\times$ A. Organisation rule book
B. Organisation manual

X C. Standard practice instructions
D. Organisation chart
Q. 85 The transmission of instructions from the top executive to the lowest grade executive is called:
Ans $\quad \times$ A. horizontal communication
B. downward communication

X C. upward communication
D. unofficial communication
Q. 86 In electrical drawings, the given symbol is used to indicate a $\qquad$ -.


Ans
X A. loud speaker
$\chi$ B. siren
C. bell
$X$ D. hooter
Q. 87 The board on which the energy meter, cut-out, neutral link are installed is called

Ans
A. service board

X B. switch board
$X$ C. main switch board
X D. distribution board
Q. 88 A 4-pole, 3-phase induction motor is supplied through a 50 Hz supply. On full load, its speed is observed to be 1410 RPM. Calculate the full load slip.
Ans
A. 6 percent

X B. 4 percent
X C. 2 percentD. 3 percent
Q. 89 Which of the following is NOT a desirable characteristic of the conductor used for transmission and distribution of electrical energy?
Ans
X A. High tensile strength
B. Low cost
C. Low specific resistance
D. High specific gravity

## Q. 90 Common emitter current gain $h_{F E}$ of a BJT is:

Ans $\quad$ A. dependent on collector-emitter voltage
X B. always constant

- C. dependent on collector current

Х D. dependent on base-emitter voltage
Q. 91 Which of the following methods of heating is most suitable for drying of paints?

Ans
$\times \mathrm{A}$. Induction heating
X B. Electrical resistance heating
C. Infrared heating

X D. Dielectric heating
Q. 92 At the starting of induction motor the rotor frequency is:

Ans $\quad \chi$ A. twice the supply frequency
B. same as supply frequency
$\times$
C. half of the supply frequency
D. zero
Q. 93 In a measurement system, which of the following static characteristics is NOT desirable?

Ans $X$ A. Accuracy
B. Drift
C. Linearity
D. Sensitivity
Q. 94 Compounding of steam turbine is done for:

Ans $\quad \times$ A. increasing the rotor speed
X B. balancing the turbine
$X$ C. reducing the work done
D. reducing the rotor speed
Q. 95 Which of the following statements is INCORRECT for squirrel cage rotor of induction motor?

Ans $\quad$ A. It is also called a short-circuited rotor.
X B. Slip ring and brush assembly are not required.

- C. Airgap between stator and rotor is not uniform.

X D. External resistance cannot be introduced in rotor circuit.
Q. 96 Which of the following is NOT a discharge lamp?

Ans $\times$ A. Mercury iodide lamp
X B. Neon lamp
X C. Sodium vapour lamp
D. Incandescent lamp

Question ID : 9277593750
Status: Answered
Chosen Option : D
Q. 97 In which of the organisational conflicts is open aggression observed?

Ans
$X$ A. Felt conflict
B. Manifest conflict
$\times$ C. Perceived conflict
D. Latent conflict
Q. 98 Which of the following systems is associated with ash handling in thermal power plants?

Ans
$\times$ A. Superheater
B. Condenser
C. Economiser
D. Electrostatic precipitator
Q. 99 Which of the following statements is true for Ferranti-effect?

Ans A. Receiving end voltage is greater than sending end voltage
$X$ B. Sending end voltage is zero
C. Receiving end voltage is zero
$X$ D. Sending end voltage is greater than receiving end voltage
Q. 100 Which of the following functions is NOT under the scope of marketing management?

Ans $\quad$ A. Advertising
B. Quality control

X C. Sales promotion
X D. Packaging
Q. 101 The approximate value of surge impedance for overhead lines is:

Ans
X A. 100 ohms
X B. 1000 ohms
C. 400 ohms

X D. 1500 ohms

Question ID : 9277593703
Status: Answered
Chosen Option : C
Q. 102 Total number of 8-bit ports available in Microcontroller 8051 are

Ans
XA. 8
X В. 6
X C. 2
D. 4
Q. 103 Which of the following practices can significantly reduce the need of new investment in energy generation or supply?
Ans
X A. Reduced supply of electricity in specific areas
B. Load shedding
C. Energy conservation
D. Increase the tariff on energy
Q. 104 Which of the following is NOT a valid characteristics of switched mode power supply as compared to linear power supply?
Ans
X A. Higher efficiency
B. Low noise at output

X C. Light weight
X D. Smaller size of transformer
Q. 105 Natural draught is produced by $\qquad$ _.
Ans
X A. exhaust fan
X B.fan
C. chimney

X D. steam jet
Q. 106 In power transmission line, which phenomenon causes the ionisation of the air surrounding the power conductor?
Ans
X A. Ferranti effect
$X$ B. Flashing

- C. Corona

X D. Skin effect
Q. 107 वे यौगिक, जो रासायनिक रूप से समरूप होते हैं लेकिन उनके भौतिक गुण भिन्न होते हैं, उन्हें $\qquad$ कहा जाता है।
Ans
A. अपररूप (allotropes)

X B. समस्थानिक (Isotopes)
X C. पॉलीमर (Polymers)
D. समावयवी (Isomers)
Q. 108 According to Boolean algebra, the resultant of the operation ( $A+A B$ ) will be

Ans
XA.AB
$\times$ B. $B$
X C. $A+B$
D. A
Q. 109 The basic circuit for the ECL family is the gate.
Ans
$\times \mathrm{A}$. NAND
X B. AND
X C. XNOR
D. OR/NOR
Q. 110 The signal generated by the time-base circuitry of the CRO is basically a:

Ans $\times$ A. triangular waveform
X B. square waveform
X C. sinusoidal waveform
D. saw-tooth waveform
Q. 111 The effective length of a short transmission line is less than $\qquad$ _.

Ans
A. 80 km
B. 320 km
C. 160 km
D. 100 km
Q. 112 In ladder logic, the given symbol is used to indicate $\qquad$ .

## ป]

Ans
$X$ A. fuse
B. heating element
$X$ C. relay coil
D. flow switch
Q. 113 In 8051 microcontroller, which of the following instructions is an example of unconditional jump?
Ans
X A. CJne
B. SJMP

X C. JZ
X D. JNZ
Q. 114 As compared to an incandescent lamp, CFL offers approximately savings in electricity costs.

Ans
X A. 40 to 50 percent
B. 70 to 80 percent

X C. 5 to 10 percent
X D. 20 to 30 percent
Q. 115 Which of the following bridges is used for most accurate inductance measurement of inductors having high value of Q-factor?

Ans
A. Hay bridge
B. Schering bridge
C. Kelvin bridge
D. Maxwell bridge
Q. 116 Which of the following motors is most widely used for printers?

Ans $\quad$ A. Synchronous motor
B. Stepper motor

X C. Induction motor
X D. DC series motor
Q. 117 In 8051 microcontroller programming, which instruction is used to waste the time in a software timing loop?
Ans
$\times$ A. DA A
B. NOP
C. SWAP
D. CLR A
Q. 118 Mercury vapour light is always $\qquad$ in colour.

Ans
A. bluish
B. reddish
C. pinkish
D. yellowish
Q. 119 Which of the following faults is least severe in power systems?

Ans
入 A. L-L-G
X B. L-L
C. L-L-L
D. L-G
Q. 120 Surge impedance $\left(Z_{c}\right)$ of the long transmission line is given by:

Ans
A. $\sqrt{L / C}$
в. $\sqrt{1 / L C}$
×c. $\sqrt{L C}$
D. $\sqrt{C / L}$
Q. 121 Using Boolean algebra, if the following Boolean expression is minimised, then the result will be:
$A B+A B C+A B(D+E)$
Ans
A. $A B$
B. $A B C D$
C. A
D. $A B C$
Q. 122 The T flip-flop is a single-input version of the $\qquad$ flip-flop.
Ans $\times$ A. clocked RS
$\times$ B. RS
$\times$ C.D

- D. JK
Q. 123 A transformer having 1000 primary turns is connected to a 250 V AC supply. For a secondary voltage of 300 V , the number of secondary turns should be:
Ans
XA. 600
B. 1200
XC. 800

X D. 1600
Q. 124 LabVIEW is the abbreviated form of

Ans A. Laboratory Virtual Instruments Engineering Workbench
X B. Laboratory Visual Instrumentation for Engineering Work
X C. Laboratory Visual Instrument for Electronic Workbench
X D. Laboratory Visual Instrument for Electrical Wiring
Q. 125 Constant product characteristics of a directional relay is in the form of $\qquad$ —.
Ans $\times$ A. straight line with positive slope
X B. straight line with negative slope
X C. square wave
D. rectangular hyperbola
Q. 126 A power plant has load factor $=0.75$ and capacity factor $=0.60$. If the maximum demand is 80 MW , then find the plant capacity.
Ans $\times$ A. 90 MW
X B. 135 MW
C. 100 MW
D. 60 MW
Q. 127 Which of the following parts absorbs secondary electrons in CRT?

Ans
X A. Control grid
B. Aquadag coating
$\times$ C. Cathode
X D. Accelerating anode
Q. 128 Process Field-Bus (PROFI-BUS) is a/an:

Ans
X A. American standard
$\times$
B. African standard
C. German standard
D. Asian standard
Q. 129 Which of the following insulating materials offers maximum working temperature?

Ans $\times$ A. Class $A$
B. Class H

X C. Class F
X D. Class B
Q. 130 The one major disadvantage of CMOS is

Ans A. high propagation delay
X B. low fan-out
$X \mathrm{C}$. high noise margin
$\times$ D. high power dissipation
Q. 131 An op-amp based integrator converts the DC level into a
___ output.

Ans
A. linearly increasing ramp

X B. triangular
$\chi$ C. square wave
X D. saw-tooth
Q. 132 In 8051 assembly language, the execution of which instruction affects the carry flag?

Ans
A. RRC A
B. SWAP A
$\times$ C.RLA
D. RR A
Q. 133 Which type of switch is indicated by the given symbol?


Ans $\quad$ A. Single-pole switch
B. Two-pole switch

X C. Three-pole switch
X D. Multi-position switch
Q. 134 The loss in draught in a chimney is $\qquad$ of the total draught produced by it.
Ans
A. 20 percent
B. 40 percent
C. 5 percent
D. 10 percent
Q. 135 Donor type impurities have $\qquad$ valence electrons.

Ans $\times$ A. 3
XB. 2
C. 5
$\times$ D. 4
Q. 136 In an organisation, which of the following positions is on the top?

Ans
A. Managing Director
B. Sales Manager
C. Production Manager
D. Marketing Manager
Q. 137 Which of the following wiring systems is most economical for house wiring?

Ans $\quad$ A. Concealed conduit wiring
B. Cleat wiring

X C. Metal sheathed wiring
X D. PVC casing and capping wiring
Q. 138 Which of the following is NOT a type of distance relay?

Ans
X A. Mho relay
X B. Reactance relay
C. Buchholz relay

X D. Impedance relay
Q. 139 Forbidden energy gap is largest in $\qquad$
Ans
A. insulator

X B. semiconductor
$X$ C. conductor
X D. superconductor
Q. 140 In which of the following relays is the generation of gas used as a means of fault detection?

Ans
X A. Mho relay
B. Induction cup relay

- C. Buchholz relay
D. Reactance relay
Q. 141 Which of the following is NOT a correct way of energy conservation?

Ans $\quad$ A. Effective periodic maintenance
B. Improving power factor
C. Replace electrical circuit with solid state circuit
D. Increase reactive loads
Q. 142 Overhauling is the part of $\qquad$ maintenance.
Ans $\quad$ A. corrective
X B. predictive
C. breakdown
D. preventive
Q. 143 How many squares will be there in a three variable Karnaugh map?

Ans $\times$ A. 16

- B. 8
$\times$ С. 4
X D. 2
Q. 144 A transformer with magnetic leakage is equivalent to an ideal transformer with:

Ans
$\chi$ A. high primary resistance
X B. inductive coil in primary circuit
C. inductive coils in primary and secondary circuits
D. inductive coil in secondary circuit
Q. 145 Which of the following is the ore of aluminium?

Ans

- A. Cryolite

X B. Chalcopyrite
X C. Graphite
D. Hematite
Q. 146 In which of the following cases is frequent starting and stopping of electric motors needed?

Ans $\times$ A. Grinding mills
X B. Paper mills
C. Lifts and hoists

X D. Air conditioners
Q. 147 Which of the following does NOT help in achieving inherent reliability in protective relay?

Ans $\quad$ A. Good workmanship
X B. Dust free enclosures
C. Low contact pressure

X D. Robust construction
Q. 148 Which of the following is NOT a valid method of cooling of transformer?

Ans $\times$ A. Oil Natural Water Forced
X B. Oil Natural Air Forced
X C. Oil Forced Water Forced
D. Water Natural Oil Forced
Q. 149 निम्न में से किसने EC अधिनियम के समर्थन में विभिन्न प्रोत्साहन प्रावधान शुरू किए हैं?

## Ans

$\times$ A. नामित उपभोक्ता
$X$ B. ECBD
$\checkmark$
C. BEE
D. BIS
Q. 150 Permeability can be considered as the:

Ans A. readiness of a material to accept magnetism
B. ability to resist the change in magnetisation
C. ability to oppose the electric current through it
D. ability of the material to allow the magnetic lines to pass through it

[^0]Q. 1 The $\qquad$ dance is performed only by women at weddings and festivals in Haryana
Ans $\times$ A. Dhamal
B. Khoria

X C. Jhumar
X D. Phag
Q. 2 Sharath Kamal is a professional ___ player from India.

Ans $\times$ A. lawn tennis
X B. badminton
C. table tennis

X D. squash
Q. 3 As per Article 22(2) of the Constitution of India, a person CANNOT be detained in custody beyond a period of $\qquad$ without the authority of a magistrate.

Ans
A. 24 hours
$X$ B. 48 hours
XC. 12 hours

X D. 36 hours
Q. 4 Which of the following statements is INCORRECT?

Ans $\quad$ A. The height of the tide is higher when the sun, the moon and the earth are in a straight line.
B. Normally, there is a 15-day interval between spring tides and neap tides.
C. Spring tides occur twice a month, one during the full moon period and another during the new moon period.
$X$ D. The time between high tide and low tide, when the water level is falling, is called 'the ebb'.
Q. 5 In December 2020, the All India Football Federation formally announced its candidature to host the AFC Asian Cup $\qquad$ .
Ans
A. 2023

X B. 2025
X C. 2029

- D. 2027
Q. 6 Which of the following statements is INCORRECT?

Ans A. Air pollution causes diseases such as hepatitis, cholera and typhoid.
B. An increase in the content of harmful substances in air is called air pollution.

X C. The combustion of fossil fuels increases the amount of suspended particles in air
X D. Smog is a visible indication of air pollution.
Q. 7 Which of the following statements is NOT true regarding banking in India?

Ans $\quad$ A. Currency notes are issued by the Reserve Bank of India.
B. Balance in current accounts is called 'time deposits'

X C. Coins are issued by the Government of India.
X D. Balance in savings accounts is called 'demand deposits'.
Q. 8 भारतीय रिज़र्व बैंक द्वारा 2016 में महात्मा गांधी (नई) श्रृंखला के भाग के रूप में जारी किए गए ₹ मूल्यवर्ग में नए डिज़ाइन किए गए बैंक नोटों का आधार रंग (base colour) मैजेंटा (गहरा गुलाबी) है।

Ans
XA. 100
B. 500
C. 2000
D. 200
Q. 9 निम्न में से कौन-सा त्योहार हिंदू श्रावण (श्रवण) महीने के पांचवें दिन मनाया जाता है, जिसमें धार्मिक-क्रिया/ पूजा-पाठ के दौरान दूध चढ़ाया जाता है?

## Ans

XA. गंगा दशहरा
X B. जीवती पूजा
C. वसंत (बसंत) पंचमी
D. नाग पंचमी
Q. 10 __ played an important role in the making of the Lucknow Pact and reorganised the Muslim League after 1934.
Ans $\quad$ A. Maulana Abul Kalam Azad
X B. Dr. Zakir Husain
X C. Khan Abdul Ghaffar Khan
D. Mohammad Ali Jinnah

Question ID: 9277593777
Status: Answered
Chosen Option: A
Q. 11 The salt commonly used in food can be formed by a combination of ___ acid and sodium hydroxide solution.

Ans
A. hydrochloric
B. sulphuric
C. nitric
D. chloric
Q. 12 Refugees of certain communities from Bangladesh, Pakistan and $\qquad$ are eligible for Indian citizenship under the Citizenship (Amendment) Bill, 2019.
Ans
$\times$ A. Bhutan
B. Nepal
$X$
C. Myanmar
D. Afghanistan
Q. 13 The Border-Gavaskar Trophy is a Test cricket series played between India and $\qquad$ -.
Ans $\quad$ A. England
B. Australia
$\times$ C. New Zealand
X D. West Indies
Q. 14 The 'Great Conjunction' of December 2020 was a celestial event involving the planets $\qquad$ —.
Ans A. Jupiter and Saturn
X B. Mars and Jupiter
X C. Venus and Mars
X D. Saturn and Mercury
Q. 15 In November 2020, Joe Biden was elected as the $\qquad$ President of the US.
Ans
X A. 47th
B. 46 th
$\times$ C. 44 th
X D. 43rd
Q. 16 The Muslim League announced $\qquad$ as 'Direct Action Day'.
Ans $\quad$ A. 17 September 1944
B. 15 December 1946

- C. 16 August 1946

X D. 18 November 1944
Q. 17 India ranks___ in the Human Development Index released by the United Nations in December 2020.
Ans
X A. 137th
$\times$ B
B. 138th
C. 131 st
D. 130th
Q. 18 The___festival at Madurai Meenakshi Amman temple celebrates the celestial marriage of the Goddess Meenakshi to the God Sundareswarar.
Ans $\quad \times$ A. Purattasi Sani
B. Chithirai

X C. Vaikasi Visakam
X D. Masi
Q. 19 The $\qquad$ is the western-most of the Himalayan rivers in India.
Ans $\times$ A. Sutlej
B. Indus

X C. Brahmaputra
D. Ganga
Q. 20 _ belong to the phylum 'Coelenterata' ('Cnidaria').
Ans $\times$ A. Locusts
B. Mosquitoes
C. Tapeworms
D. Corals

Section: Reasoning
Q. 1 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, decide which of the conclusions logically follow(s) from the statements.

Statements: $\lambda \leq \Omega, \lambda>£, \pi \geq \phi, £>\pi$
Conclusions:
I. $\Omega>\boldsymbol{\phi}$
II. $\lambda \leq \pi$

Ans
A. Only conclusion I follows.

X B. Both conclusions I and II follow.
X C. Either conclusion I or II follows.
D. Only conclusion II follows.
Q. 2 Select the Venn diagram that best represents the relationship between the following classes.

## Universe, Earth, India, Gujarat, Bhilai

Ans

B.

$\times \mathrm{D}$.

Q. 3 Two different positions of the same dice marked with the letters $a, b, c, d, e$ and $f$ are shown. From the following options, which other orientation is possible from this dice?


Ans

Q. 4 Identify the number that does NOT belong to the following series.

256, 289, 324, 361, 420, 441, 484
Ans
X A. 324
X B. 361
C. 420

X D. 441
Q. 5 The present age of Tanya is double that of the age of Mohit. Five years ago, the age of Mohit was one-third that of the age of Tanya. What is the present age of Mohit?
Ans
A. 10 years
B. 20 years
XC. 15 years

X D. 25 years
Q. 6 Study the diagram carefully and answer the question that follows.

The given diagram shows the number of students in a school who are practicing different dance forms.


What is the number of students who practice both Odissi and Kuchipudi, but NOT Kathak?
Ans
$\times$ A. 30
XB. 9
X C. 50

- D. 14
Q. 7 Study the given pattern carefully and select the number that can replace the question mark (?) in it.


Ans
$\times$ A. 175
X B. 160
XC. 205

- D. 190
Q. 8 Select the option that is related to the third number in the same way as the second number is related to the first number.

253: 320 :: 323 : ?
Ans
A. 390

X B. 400
X с. 365
X D. 342
Q. 9 Select the Venn diagram that best represents the relationship between the following classes.

Outdoor Games, Cricket, Chess, Hockey
Ans


X в.


- C .

Q. 10 The present ages of three friends Riya, Pankaj and Gaurav are in the ratio of $3: 4: 5$, respectively. Five years ago the sum of their ages was 69 years. Find the present age of Pankaj.
Ans
XA. 32 years
B. 28 years

X C. 35 years
X D. 21 years
Q. 11 Select the option that is true regarding the following two statements labelled Assertion (A) and Reason (R). Assertion (A): Wearing masks helps in controlling the spread of COVID-19 virus. Reason (R): Masks repel coronavirus.
Ans
Х A. $A$ ' is false but ' $R$ ' is true.
X B. Both 'A' and 'R' are true but ' R ' is not the correct explanation of ' $A$ '

- C. A' is true but 'R' is false.D. Both ' $A$ ' and ' $R$ ' are true and ' $R$ ' is the correct explanation of 'A'.
Q. 12 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, decide which of the conclusions logically follows from the
statements.
Statements: $\mathrm{P} \geq \mathrm{R}, \mathrm{R}>\mathrm{T}, \mathrm{T} \leq \mathrm{A}$
Conclusions:
I. $\mathrm{P}>\mathrm{A}$
II. $\mathrm{T}<\mathrm{P}$

Ans
$\times$ A. Either conclusion I or II follows.
X B. Only conclusion I follows.
C. Only conclusion II follows.

X D. Neither conclusion I nor II follows.
Q. 13 Which two numbers should be interchanged in the given equation so that the equation becomes correct?
$96 \div 8+7-2 \times 3=23$
Ans
A. 8 and 3

X B. 7 and 2
XC. 2 and 3

X D. 3 and 7
Q. 14 Identify the number that does NOT belong to the following series.

7, 21, 63, 199, 567, 1701
Ans
XA. 567
X B. 21
C. 199

X D. 63
Q. 15 Select the option that can replace the question mark (?) in the following number series.
$53,90,127,164, ?$
Ans

- A. 201

X B. 221
X С. 260
X D. 182
 following expression.
$335+67-8 \div 21 \times 9$
Ans
$\times \mathrm{A} .52$
X B. 231

- C. 28

XD. 169
Q. 17 In the following diagram, the triangle represents men, the circle represents unemployed, the rectangle represents rural, and the square represents dancers.


How many men are NEITHER unemployed NOR dancers?
Ans
XA. 17

- B. 26

X с. 9
X D. 12
Q. 18 Two different positions of the same dice marked with the letters G, H, I, J, K and L are shown. This dice is formed by folding which of the following option figures?


Ans

$\chi$ D.

Q. 19 Select the option that can replace the question mark (?) in the following number series.

19, 28, ?, 52, 67
Ans

- A. 39

X в. 36
X С. 34
$\times$ D. 43
Q. 20 Select the option that can replace the question mark (?) in the following number series.
$16,48,24,72,36$,
Ans
$\times$ A. 92
X B. 120

- C. 108

X D. 88

Section : General Hindi
Q. 1 मानव पढ़ रहा है।' वाक्य का काल है -

Ans
XA. पूर्ण वर्तमान
B. तात्कालिक वर्तमान
C. सामान्य वर्तमान

XD. संदिग्ध वर्तमान
Q. 2 पपीहा $\qquad$ करता है। रिक्त स्थान के लिए उपयुक्त शब्द कौन सा है?

Ans A. पीउ-पीउ

XB. पिया-पिया
X C. काँव- काँव
X D. कू-कू
Q. 3 विधान सभा का चुनाव एक निश्चित $\qquad$ के लिए होता है। रिक्त स्थान के लिए सर्वाधिक उपयुक्त शब्द कौन सा है?
Ans
A. अवधि

X B. काल
X C. क्षण
D. युग
Q. 4 कौन' सर्वनाम का परिमाणवाचक विशेषण होगा-

Ans
A. कितना
B. किसका
$\times$ C. किस
D. कैसा
Q. 5 पगड़ी' किस प्रकार का शब्द है?

Ans
$\times$ A. विदेशी
$X$ B. तत्सम
C. देशज

X D. तद्भव
Q. 6 चिड़िया' किस प्रकार का शब्द है?

Ans
A. देशज
$X$ B. तद्भव
X C. तत्सम
X D. विदेशी
Q. 7 सदा प्रसन्न रहो।' वाक्य में क्रिया की वृत्ति है-

Ans $\times$ A. आजापूरक
B. इच्छासूचक

X C. संकेतसूचक
$\times$ D. संदेहसूचक
Q. 8 सीता जा रही थी।' वाक्य का काल है -

Ans
A. अपूर्ण भूत

XB. पूर्ण भूत
C. सामान्य भूत
D. संधिग्ध भूत

Question ID : 9277593813
Status: Answered
Chosen Option : D
Q. 9 चुप्पा बहुत चालाक होता है। अर्थ को व्यांजित करने वाली उपयुक्त लोकोक्ति कौन सी है?

Ans $\times$ A. फिसल पड़े तो हर गंगा
B. प्यासा कुएँ के पास जाता है
C. बहरा सो गहरा
D. भूख लगे तो घर की सूझी
Q. 10 हिन्दी में कुल कितने सर्वनाम हैं?

Ans
$\times$ A. 9
X в. 13

- C. 11

XD. 15


[^0]:    Section : General Knowledge or Awareness

