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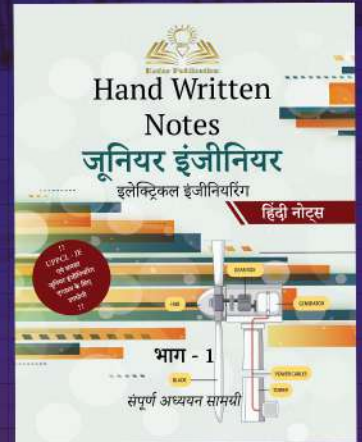
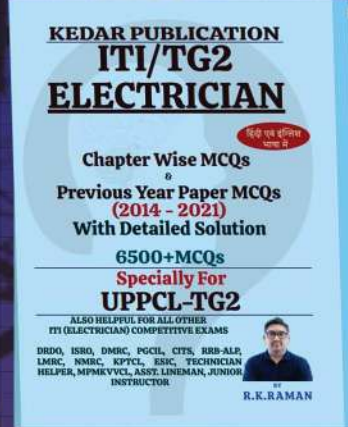
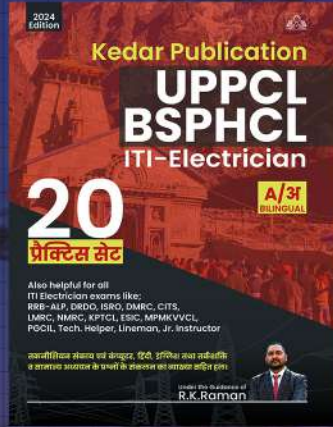
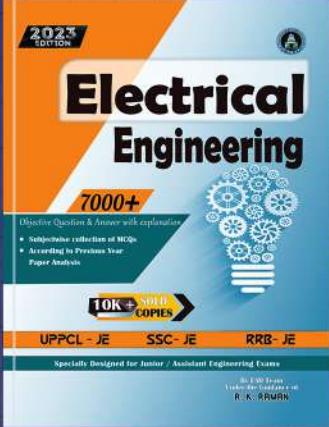
Objective Book for

Electrical-JE

UPPCL BSPHCL

ITI-Electrician

JE Short Notes



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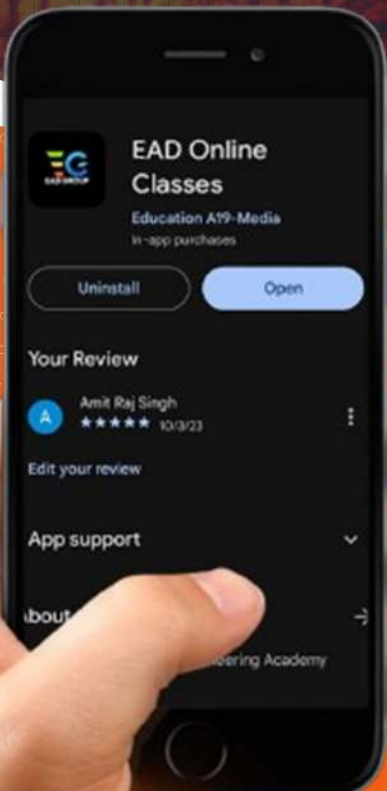
Exam Targeted:-

UPPCL-JE, SSC-JE RRB-JE

PGCIL-DT,DFCCIL-JE, ITI Etc.



Raman sir
Electrical Engg. Expert



LOCATION

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ANIKET KUMAR

Shambhunath Institute of Management

28/06/2015

1:00 PM - 2:30 PM

Junior Engineer Electrical Engineering

Section : Technical	
<p>Q.1 A very high head hydro electric plant use</p> <p>Options</p> <ol style="list-style-type: none"> 1. Kaplan turbine 2. Francis turbine 3. Pelton wheel 4. Propeller turbine 	Chosen Option : 3
<p>Q.2 Which of the following is not a bus bar arrangement?</p> <p>Options</p> <ol style="list-style-type: none"> 1. Ring bus bar 2. Duplicate bus bar 3. Double bus bar 4. Single bus bar 	Chosen Option : 2
<p>Q.3 At resonance, inductive reactance is equal to</p> <p>Options</p> <ol style="list-style-type: none"> 1. Inductance 2. Capacitance 3. Resistance 4. Capacitive Reactance 	Chosen Option : 4
<p>Q.4 The starting winding of a single phase motor is placed in</p> <p>Options</p> <ol style="list-style-type: none"> 1. field 2. rotor 3. armature 4. stator 	Chosen Option : 1
<p>Q.5 If residual magnetism is present in a DC generator, the induced e.m.f. at zero speed will be</p> <p>Options</p> <ol style="list-style-type: none"> 1. the same as rated voltage 2. small 3. zero 4. high 	Chosen Option : 3
<p>Q.6 What are Oil switches used for?</p> <p>Options</p> <ol style="list-style-type: none"> 1. high voltage and large current circuits 2. low current supply 3. low current circuits 4. low voltage circuits 	Chosen Option : 1
<p>Q.7 In a DC motor, speed control by varying the armature circuit resistance provides a:</p> <p>Options</p> <ol style="list-style-type: none"> 1. variable torque drive 2. constant torque drive 3. constant power drive 4. variable power drive 	Chosen Option : 2
<p>Q.8 An exciter for a turbo generator is a:</p> <p>Options</p> <ol style="list-style-type: none"> 1. series generator 2. compound generator 3. separately excited generator 4. shunt generator 	Chosen Option : 4
<p>Q.9 The single phase induction motor which does not have centrifugal switch is</p> <p>Options</p> <ol style="list-style-type: none"> 1. resistance split single phase IM 2. capacitor start single phase IM 	Chosen Option : 3

3. capacitor start capacitor run single phase IM 4. permanent capacitor run single phase IM	
Q.10 The field coils of DC generator are generally made up of:	Chosen Option : 2
Options 1. Mica 2. Copper 3. Cast Iron 4. Carbon	
Q.11 A motor starter is	Chosen Option : 3
Options 1. variable capacitor 2. fixed resistance 3. variable resistance 4. variable inductance	
Q.12 In an A.C. circuit, power is consumed only in	Chosen Option : 4
Options 1. capacitor 2. choke 3. inductor 4. resistance	
Q.13 Compounding of steam is done for	Chosen Option : 2
Options 1. reducing the work done 2. increasing the rotor speed 3. balancing the turbine 4. reducing the rotor speed	
Q.14 Three point starter can be used for:	Chosen Option : 1
Options 1. both shunt and compound motor 2. shunt motor 3. series motor 4. compound motor	
Q.15 A dynamo is sometimes said to generate electricity. It actually acts as a source of	Chosen Option : 4
Options 1. charge 2. magnetism 3. energy 4. emf	
Q.16 The primary to secondary turns ratio of a transformer is 1 : 2. If primary is connected to 50 Hz supply, then the frequency of secondary supply in Hz is:	Chosen Option : 4
Options 1. 2×50 2. 3×50 3. $\frac{50}{2}$ 4. 50	
Q.17 The gas filled in vacuum filament lamps is:	Chosen Option : 4
Options 1. Chlorine 2. Air 3. Nitrogen 4. Argon	
Q.18 An inductor may store charges in its:	Chosen Option : 4
Options 1. coils 2. magnetic field 3. electric field 4. electric and magnetic fields both	
Q.19 For the same power output, operating charges are minimum in a:	Chosen Option : 4
Options 1. gas turbine plant 2. thermal plant 3. nuclear plant 4. hydel plant	

Q.20 The core of a transformer is laminated to prevent:

Options

1. resistance to current
2. rusting of core
3. increase in weight of transformer
4. energy losses due to eddy currents

Chosen Option : 4

Q.21 The range of efficiency for shaded pole motors is

Options

1. 5% to 35%
2. 50% to 75%
3. 80% to 90%
4. 95% to 99%

Chosen Option : 1

Q.22 Hot wire ammeters are used for measuring

Options

1. neither a.c. nor d.c.
2. only d.c.
3. only a.c.
4. both a.c. and d.c.

Chosen Option : 3

Q.23 The mechanical power developed by a DC motor is:

Options

1. power output \times losses
2. back emf \times armature current
- 3.
4. power input + losses

Chosen Option : 2

Q.24 The rotor of which motor does not have winding on it?

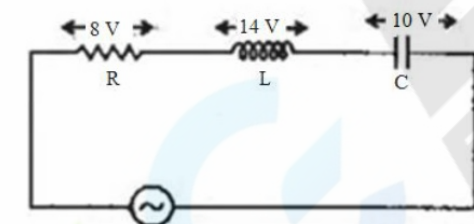
Options

1. Repulsion motor
2. Hysteresis motor
3. Universal motor
4. Reluctance motor

Chosen Option : 2

Q.25 If the voltage source is sinusoidal, then the input voltage (r.m.s.) is:

Options



Chosen Option : 2

Options

1. 15 V
2. 10 V
3. 5 V
4. 2.5 V

Q.26 The speed of universal motor is generally reduced by

Options

1. V belts
2. brakes
3. chains
4. gear trains

Chosen Option : 4

Q.27 Power output in a motor is 140 W. Input to the motor is 176.84 W including losses. Then, the efficiency is:

Options

1. 74%
2. 81%
3. 76%
4. 79%

Chosen Option : 4

Q.28 The overall efficiency of a thermal power plant is equal to:

Options

1. Boiler efficiency \times Turbine efficiency \times Generator efficiency
2. Carnot cycle efficiency
3. Rankine cycle efficiency

Chosen Option : 1

4. Regenerative cycle efficiency	
Q.29 Air used in air blast circuit breaker must:	Chosen Option : 4
Options	
1. be ionized	
2. have least CO ₂	
3. have oil mist	
4. be free from moisture	
Q.30 Unit of resistivity is:	Chosen Option : 2
Options	
1. mho	
2. ohm metre	
3. mho metre	
4. ohm	
Q.31 The ratio of energy produced in a given time to the maximum possible energy that can be produced is:	Chosen Option : 4
Options	
1. Load factor	
2. Plant use factor	
3. Demand factor	
4. Utilization factor	
Q.32 What is the main function of a fuse?	Chosen Option : 4
Options	
1. To protect the line	
2. To save energy	
3. To open the circuit	
4. To prevent excessive currents	
Q.33 Which of the following is not self starting?	Chosen Option : 1
Options	
1. Squirrel cage induction motor	
2. DC series motor	
3. Synchronous motor	
4. Wound round induction motor	
Q.34 Iron losses in DC machines are independent of variations in	Chosen Option : 4
Options	
1. speed	
2. speed and voltage	
3. voltage	
4. load	
Q.35 Which of the following coals has the highest calorific value?	Chosen Option : 1
Options	
1. Anthracite	
2. Bituminous	
3. Peat	
4. Lignite	
Q.36 Which of the following devices does not work on the principle of mutual induction?	Chosen Option : 2
Options	
1. Tesla Coil	
2. Motor	
3. Induction Coil	
4. Transformer	
Q.37 Kirchoff's first and second laws are respectively based on conservation of:	Chosen Option : 3
Options	
1. energy and charge	
2. mass and energy	
3. charge and energy	
4. mass and charge	
Q.38 High tension cables are generally used up to	Chosen Option : 3
Options	
1. 11 kV	
2. 66 kV	
3. 33 kV	
4. 132 kV	

<p>Q.39 DC motors are used for driving</p> <p>Options</p> <ol style="list-style-type: none"> 1. hoists 2. machine tools 3. cranes 4. trains 	Chosen Option : 4										
<p>Q.40 Buchholz relay is used on</p> <p>Options</p> <ol style="list-style-type: none"> 1. air cooled transformers 2. oil cooled transformers 3. furnace transformers 4. welding transformers 	Chosen Option : 2										
<p>Q.41 The critical resistance of the DC generator is the resistance of:</p> <p>Options</p> <ol style="list-style-type: none"> 1. field 2. armature 3. load 4. brushes 	Chosen Option : 1										
<p>Q.42 Match List I with List II and choose the correct answer from the options given below.</p> <table border="0"> <thead> <tr> <th>List I (Machines)</th> <th>List II (Graphs)</th> </tr> </thead> <tbody> <tr> <td>i. DC motor</td> <td>a. circle diagram</td> </tr> <tr> <td>ii. DC generator</td> <td>b. V-curve</td> </tr> <tr> <td>iii. Alternator</td> <td>c. open circuit characteristics</td> </tr> <tr> <td>iv. Induction motor</td> <td>d. speed torque curve</td> </tr> </tbody> </table> <p>Options</p> <ol style="list-style-type: none"> 1. iii – a, iv – b, i – c, ii – d 2. 3. iv – a, iii – b, ii – c, i – d 4. iii – a, iv – b, ii – c, i – d 	List I (Machines)	List II (Graphs)	i. DC motor	a. circle diagram	ii. DC generator	b. V-curve	iii. Alternator	c. open circuit characteristics	iv. Induction motor	d. speed torque curve	Chosen Option : 3
List I (Machines)	List II (Graphs)										
i. DC motor	a. circle diagram										
ii. DC generator	b. V-curve										
iii. Alternator	c. open circuit characteristics										
iv. Induction motor	d. speed torque curve										
<p>Q.43 Which type of winding is generally preferred for generating large currents on DC generators?</p> <p>Options</p> <ol style="list-style-type: none"> 1. Lap winding 2. Retrogressive wave winding 3. Current depends on design 4. Progressive wave winding 	Chosen Option : 1										
<p>Q.44 In a DC motor, constant torque is produced due to</p> <p>Options</p> <ol style="list-style-type: none"> 1. end plates 2. rotor laminations 3. pole shoes 4. commutator 	Chosen Option : 4										
<p>Q.45 As the motion of armature increases, back e.m.f.</p> <p>Options</p> <ol style="list-style-type: none"> 1. remains constant 2. may increase or decrease 3. increases 4. decreases 	Chosen Option : 3										
<p>Q.46 Buchholz's relay is</p> <p>Options</p> <ol style="list-style-type: none"> 1. connected in pipe connecting transformer and conservator 2. located on top of conservator pump 3. part of circuit breaker installed near transformer 4. installed inside the breaker 	Chosen Option : 1										
<p>Q.47 Permeance is the reciprocal of:</p> <p>Options</p> <ol style="list-style-type: none"> 1. ampere turns 2. flux density 3. reluctance 4. resistance 	Chosen Option : 3										
<p>Q.48 Wattless current is possible only in</p> <p>Options</p> <ol style="list-style-type: none"> 1. an LR circuit 2. a non resistive circuit 3. a resistive circuit 	Chosen Option : 1										

4. an LCR circuit

Q.49 Direct conversion of heat into electrical energy is done by

Chosen Option : 3

Options

1. stem cells
2. fuel cells
3. MHD generators
4. solar cells

Q.50 In a conductor, current density is the:

Chosen Option : 1

Options

1. current flowing per unit area
2. current flowing per unit volume
3. current flowing per unit length
4. current flowing per unit mass

Q.51 Which of the following devices is used as lightning arrester?

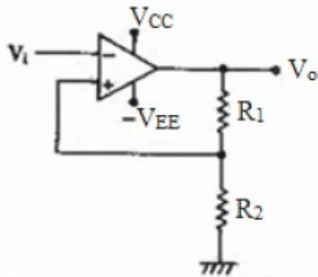
Chosen Answer : --

Options

1. Thyatron
2. Thyristor
3. Triode
4. Thyrite

Q.52 What does the following diagram represent?

Chosen Answer : --



Options

1. Bistable multivibrator
2. Astable vibrator
3. Monostable vibrator
4. Schmitt trigger

Q.53 Demand factor is

Chosen Option : 4

Options

1. Maximum demand/ Average load
2. Connected load/Maximum demand
3. Average load/Maximum demand
4. Maximum demand/Connected load

Q.54 No load test on a transformer is carried out to determine

Chosen Option : 4

Options

1. copper loss
2. magnetising current
3. efficiency
4. magnetising current and loss

Q.55 An LC circuit cannot produce oscillations, when

Chosen Answer : --

Options

1. resistance is low
2. resistance is large
3. inductance is large
4. capacitance is large

Q.56 What does the area under the load curve give?

Chosen Option : 3

Options

1. Load
2. Maximum demand
3. Energy consumed
4. Average demand

Q.57 The average power of an A.C. circuit is:

Chosen Option : 2

Options

1. $E_v I_v \sin \Phi$

2. 0	
3. $E_v I_v \cos \Phi$	
4. $E_v I_v$	
Q.58 If the speed of rotation of a dynamo is doubled, then the induced emf will:	Chosen Option : 3
Options	
1. become four times	
2. remain unchanged	
3. become double	
4. become half	
Q.59 Which of the following is used as moderator in nuclear power plants?	Chosen Option : 4
Options	
1. Graphite	
2. Sodium	
3. Hydrogen	
4. Heavy water	
Q.60 The angle between rotating stator flux and rotor poles is called:	Chosen Option : 3
Options	
1. synchronizing angle	
2. power factor angle	
3. torque angle	
4. obtuse angle	
Q.61 Candela is a unit of:	Chosen Option : 1
Options	
1. Luminous intensity	
2. Power	
3. Lamp efficiency	
4. Frequency	
Q.62 Hunting in a synchronous motor takes place when	Chosen Option : 3
Options	
1. power factor is unity	
2. motor is under loaded	
3. supply voltage fluctuates	
4. load varies	
Q.63 Which DC motors are preferred for elevators?	Chosen Option : 2
Options	
1. Shunt motors	
2. Cumulative compound motors	
3. Series motors	
4. Differential compound motors	
Q.64 When power is drawn from secondary coil of a transformer, the dynamic resistance:	Chosen Answer : --
Options	
1. decreases	
2. increases	
3. changes erratically	
4. remains constant	
Q.65 In DC machines, fractional pitch winding is used to:	Chosen Option : 1
Options	
1. reduce the sparking	
2. increase the generated emf	
3. improve cooling	
4. reduce copper losses	
Q.66 The ratio of starting torque to running torque in a synchronous motor is:	Chosen Option : 1
Options	
1. 1	
2. 0	
3. ∞	
4. 2	
Q.67 A DC motor converts	Chosen Option : 1
Options	
1. electrical energy into mechanical energy	
2. mechanical energy into electrical energy	

3. magnetic energy into electrical energy
4. electric energy into magnetic energy

Q.68 A 4 pole DC machine is running at 1500 rpm. What is the frequency of current in armature winding?

Chosen Option : 4

- Options**
1. 25 Hz
 2. 100 Hz
 3. 50 Hz
 4. 0 Hz

Q.69 Francis and Kaplan turbines fall under the category of:

Chosen Option : 4

- Options**
1. axial flow
 2. impulse and reaction combined
 3. impulse turbine
 4. reaction turbine

Q.70 A three phase synchronous motor will have:

Chosen Option : 3

- Options**
1. three slip rings
 2. one slip ring
 3. two slip rings
 4. no slip rings

Q.71 The power transformer is a constant

Chosen Option : 3

- Options**
1. current device
 2. power device
 3. main flux device
 4. voltage device

Q.72 Statement 1- Switching of a lamp in a house produces noise in radio
Statement 2- Switching operation produces arc contact across separating contacts

Chosen Option : 3

Which of the following is correct?

- Options**
1. Both 1 and 2 are correct but 2 is not the correct explanation of 1
 2. 1 is false but 2 is true
 3. Both 1 and 2 are correct and 2 is the correct explanation of 1
 4. 1 is true but 2 is false

Q.73 The speed of DC motor is proportional to the:

Chosen Option : 2

- Options**
1. square of armature current
 2. inverse of armature current
 3. armature current
 4. field current

Q.74 Which of the following is not a type of tariff?

Chosen Option : 2

- Options**
1. Hopkinson demand rate
 2. Income rate
 3. Flat demand rate
 4. Block meter rate

Q.75 A transformer steps up or down

Chosen Option : 1

- Options**
1. a.c. only
 2. a.c. mixed with d.c.
 3. d.c. only
 4. either a.c. or d.c.

Section : Numerical and logical Reasoning questions

Q.1 If 'DAUGHTER' is coded as 'SFUIHVBE' in a certain language, then how would 'PROBLEM' be coded as in the same language?

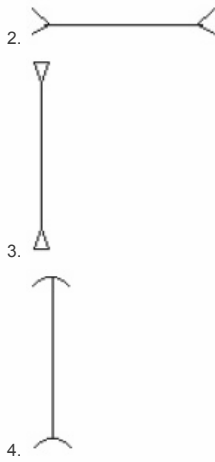
Chosen Option : 4

- Options**
1. QSPCMFN
 2. NFMCSQP
 3. LDKANQO
 4. NFMCPQS

Q.2 Four figures are given below out of which three are similar in a certain way and one is different. Which is of the given figures is different from the other three?

Chosen Option : 4

- Options**
1. 



Q.3 P is the brother of Q and son of R. V is the sister of T, who is the daughter of Q. If R is the husband of S, then which of the following is true?

Chosen Option : 3

Options

1. V is the granddaughter of S
2. S is the mother of T
3. V is the nephew of P
4. R is the grandfather of Q

Q.4 Each of the following two rows contains 3 numbers. Some rules are given below to be used for getting the resultant for each row separately. Apply the rules for each row from left to right and answer the question.

Chosen Answer : --

Rules:

- (i) If an even number is followed by an odd but not prime number, both are to be multiplied.
- (ii) If an even number is followed by a prime number, both are to be added.
- (iii) If an odd number is followed by a composite odd number, the first number is to be subtracted from the square of the second number.
- (iv) If an odd number is followed by an even number, the odd one is to be subtracted from the even number.

Row I: 16, 9, 23

Row II: 13, 38, 25

What is the difference between the resultants of the first row and the second row?

Options

1. 26
2. 767
3. 433
4. 193

Q.5 If '+' means '÷', '÷' means '-', '-' means '×' and '×' means '+', then

Chosen Option : 4

$$(12 + 4 \times 2) \times 6 - 4 \div 2 = ?$$

Options

1. 24
2. 17
3. 14
4. 27

Q.6 If 12% of 40% of X = 84, then what is the value of X?

Chosen Option : 1

Options

1. 1750
2. 1680
3. 1600
4. 1860

Q.7 Four months are given below out of which three are alike in some manner and one is different. Which of the given months is different from the other three?

Chosen Option : 3

Options

1. January
2. December
3. June
4. October

Q.8 Find out the word-pair in which the two words hold the same relationship as the two words in the word-pair given below.

Chosen Option : 4

Orange : Apple

Options

1. Pen : Ink
2. Tree : Flower

3. House : Family

4. Table : Chair

Q.9 Which number will replace the question mark in the number series below?

3, 4, 13, 38, ?, 168

Chosen Option : 3

Options

1. 63

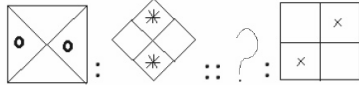
2. 77

3. 87

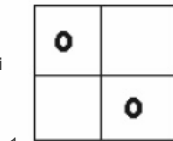
4. 102

Q.10 The first two figures on the left side of the sign '::' are related in a certain way. The same relationship holds for the second pair of figures on the right side of the sign '::', of which one is missing. Which of the following is the missing one?

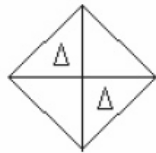
Chosen Option : 2



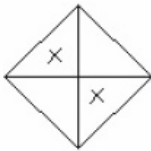
Options



1.



2.



3.



4.

Section : Computer Applications

Q.1 Which of the following is not a Search Engine?

Chosen Option : 3

Options

1. Google

2. Yahoo

3. Facebook

4. Alta Vista

Q.2 The CPU of a computer consists of:

Chosen Option : 3

Options

1. ALU, control unit and monitor

2. ALU, control unit and hard disk

3. ALU and control unit

4. ALU, control unit and registers

Q.3 Which of the following is both an input and an output device?

Chosen Option : 2

Options

1. Touch screen

2. LCD projector panel

3. Audio cards

4. Modem

Q.4 Criterion used for judging appropriateness of tool software is:

Chosen Answer : --

Options

1. Scalability

2. Compatibility

3. Security

4. Functionality

Q.5 The operating system for mobile phones developed by Google is:

Chosen Answer : --

Options

1. Magellan

2. Android 3. Ubuntu 4. Amoeba	
Q.6 Which one of the following decimal number is equivalent to $(1000010)_2$? Options 1. 200_{10} 2. 130_{10} 3. 1010_{10} 4. 304_{10}	Chosen Option : 2
Q.7 In a spreadsheet, one function inside another is called: Options 1. Sum 2. Text 3. Round 4. Nested	Chosen Answer : --
Q.8 Which of the following is not a part of the Office Suite? Options 1. Image editor 2. Database 3. Word processor 4. File manager	Chosen Answer : --
Q.9 A program in execution is called: Options 1. Function 2. Process 3. Procedure 4. Instruction	Chosen Answer : --
Q.10 A shared network within an organisation to provide connectivity to the staff is called: Options 1. Intranet 2. Extranet 3. Delnet 4. Internet	Chosen Option : 4
Section : GK / Awareness	
Q.1 Which of the following payment instruments is known as plastic money? Options 1. Bearer Cheques 2. Gift Cheques 3. Credit Cards 4. Demand Drafts	Chosen Option : 3
Q.2 Who advises the centre on legal matters? Options 1. Chief Justice of India 2. Attorney General of India 3. President of India 4. Advocate General of india	Chosen Option : 2
Q.3 Prime Minister Narendra Modi has recently launched the "Give It Up" Campaign for voluntarily giving up which of the following? Options 1. LPG Subsidy 2. Drugs 3. Plastics 4. Ration	Chosen Option : 1
Q.4 Which Mughal ruler was on the throne of India when East India company was permitted to establish a factory at Surat? Options 1. Shahjahan 2. Jehangir 3. Humayun 4. Aurangzeb	Chosen Option : 4
Q.5 EEG is taken out for diagnosing ailments of which of the following?	

- Options**
1. Lungs
 2. Brain
 3. Heart
 4. Stomach

Chosen Option : 2

