QUESTION FOR WRITTEN TEST FOR THE POST OF JUNIOR ENGINEER (S&T) ON COMPASSIONATE GROUND

Duration : 2 hrs   **Dt:30.08.2019**
Max. Marks: 150

Each question is having four multiple choice answers out of which only one is correct.
For each correct answer one mark will be awarded.

Q.1   The substance that is usually lost by the body during dehydration is -
(A) Sugar   (B) Potassium chloride (C) Calcium Phosphate (D) Sodium chloride

Q.2   Which indian city is also called Tatanagar -
(A) Dhanbad (B) Bhilai (C) Ranchi (D) Jamshedpur

Q.3   India's first full fledged woman Finance Minister who has presented her
maiden budget in Parliament -
(A) Indira Gandhi (B) Smriti Irani (C) Nirmala Sitharaman (D) Sushama Swaraj

Q.4   Final of ICC Cricket World Cup 2019 played on date-
(A) 14 July 2019 (B) 15 July 2019 (C) 13 July 2019 (D) None of these

Q.5   Richest source of Vitamin-C is -
(A) Red meat (B) Lemon (C) Milk (D) pulses

Q.6   What is full form of SONAR -
(A) Sound in Navy And in Receivers (B) Sound Navigation And Ranging
(C) Sound Not in Aircraft Range
(D) Sound Navigation And Receiving

Q.7   Which of the following Indian Presidents served the longest in office ?
(A) Dr. Rajendra Prasad (B) Dr. Shankar Dayal Sharma
(C) Dr. S . Radhakrishnan (D) None of these

Q.8   Which of these is an eye disorder ?
(A) Sinus (B) Arthritis (C) Jaundice (D) Myopia

Q.9   The sum of the atomic masses of all the atoms in a molecule of the substance is -
(A) Formula Mass (B) Atomic Mass (C) Molecular Mass (D) None of these

Q.10   South East Central Railway is headquartered at ---
(A) Bilaspur (B) Hyderabad (C) Bangalore (D) Secunderabad

Q.11   who is the writer of Kumarasambhava ?
(A) Panini (B) Varahmira (C) Amara Sinha (D) Kalidasa

Q.12 How many spokes are there in Ashoka Chakra ?
(A) 24 (B) 18 (C) 22 (D) 14

Q.13 What is the symbol of "Samajwadi Party" ?
(A)Hathi (B) Cycle (C) Broom (D) Kamal

Q.14 The 2000 rupee note carries the image of -
(A) Red Fort (B) Mangalyan (C) Taj Mahal (D) None of these

Q.15 What is the capital of Turkey?
(A) Baghdad (B) Ankara (C) Tashkent (D) None of these

Q.16 Bandipur National Park is situated in --
(A) Karnataka (B) Sikkim (C) Kerala (D) None of these

Q.17 Kandala Port is at--
(A) Gujarat (B) Tamil Nadu (C) Karnataka (D) None of these

Q.18 Kota is situated on the bank of river -
(A) Ganga (B) Chambal (C) Shipra (D) None of these

Q.19 Tenure of Rajya Sabha members is-
(A) 4 years (B) 3 Years (C) 5 Years (D) None of these

Q.20 Eiffel Tower is situated at--
(A) China (B) Italy (C) France (D) None of these

Q.21 11,13, 17, 19, 23, 25, ?
(A) 26 (B) 27 (C) 29 (D) 37

Q.22 2, 15, 4, 12, 6, 7, ?, ?
(A) 8, 8 (B) 8, 0 (C) 3, 8 (D) None of these

Q.23 ba_cb_b_bab_
(A) acbb (B) bacc (C) bcaa (D) cabb

Q.24 Laugh : Joy : : Weep : ?
(A) Grief (B) Remorse (C) Baby (D) Punishment

Q.25 Mango : Fruit : : Potato ; ?
(A) Root (B) Fruit (C) Stem (D) Flower

Q.26 Choose out the odd one
(A) Malaria (B) Plague (C) Dengue (D) Tetanus

Q. 27 Choose the odd one
(A) Goat (B) Puppy (C) Cow (D) Buffalo

Q.28 In a certain code language, BEAT is written as YVZG, then what will be the code of MILD ?
(A) ONRW (B) NOWR (C) ONWR (D) NROW

Q.29 In a certain code language, SPIDER is written as PSDIRE, then what will be the code of COMMON ?
(A) OCOMMO (B) OCMMNO (C) OCMOMN (D) OCMMON

Q.30 Pointing towards a person, a man said to a woman "His mother is the only daughter of your father".
How is the woman related to that person?
(A) Daughter (B) Sister (C) Mother (D) Wife

Q.31 Pointing to a lady in the photograph, Shaloo said "Her son's father is the son- in- law of my mother".
How is Shaloo is related to the lady?
(A) Aunt (B) Sister (C) Mother (D) Cousin

Q.32 Find the next two terms of the series :
A, C, F, J, ?, ?
(A) L, P (B) M,O (C) O, U (D) R, V

Q.33 R, U, X, A, D, ?
(A) F (B) G (C) H (D) I

Q.34 A shephard had 17 sheep. All but nine died. How many was he left with ?
(A) Nil (B) 8 (C) 9 (D) 17

Q.35 What is the product of all the numbers in the dial of a telephone ?
(A) 1,58,480 (B) 1,59,450 (C) 1,59,480 (D) None of these

Q.36 A man is facing west. He turns 45 degree in the clockwisedirecton and then another 180 degree in the same direction and then 270 degree in the anti- clockwise direction. Which direction is he facing now?
(A) South (B) North-West (C) West (D) South-West

Q.37 You go North, turn right, then right again and then go to left. In which direction are you now?
(A) North (B) South (C) East (D) West

Q.38 Choose the analogous pair (for Q.38 & Q. 39)
Energy : Joule
(A) Axe : Grind (B) Ammeter :Current (C) Power : Ampere
(D) Resistance : Ohm

Q.39 Darkness : Lamp
(A) Fatigue : Exercise (B) Thirst : Water (C) Medicine : Illness
(D) Study : Classroom

Q,40 Arrange following words according to dictionary arrangement.
1. Epitaxy 2. Episode 3. Epigene 4. Epitome 5. Epilogue
(A) 1, 2, 3, 4, 5 (B) 3, 2, 5, 4, 1 (C) 3, 5, 2, 1, 4 (D) 5, 4, 2, 1,3

Q.41 Average of first five multiples of 3 is -
(A) 0 (B) 5 (C) 9 (D) none of these

Q.42 The average of five numbers is 27. If one number is excluded, the
average becomes 25. Find the excluded number.
(A) 35 (B) 33 (C) 53 (D) none of these

Q.43 The sum of two numbers is 80. If three times of one number is equal
to five times of the other, find the numbers.
(A) 60, 20 (B) 70, 10 (C) 50, 30 (D) none of these

Q.44 Three-fourth of a number is more than two-third of the number by 5.
The number is
(A) 72 (B) 60 (C) 84 (D) 48

Q.45 60 = ?% of 400
(A) 6 (B) 12 (C) 15 (D) 20

Q.46 (50 + 50% of 50) =?
(A) 50 (B) 75 (C) 100 (D) 150

Q.47 How is 3/4 expressed as percentage?
(A) 0.75% (B) 7.5% (C) 60% (D) 75%

Q.48 What percent is 3% of 5% ?
(A) 15% (B) 1.5% (C) 0.15% (D) none of these

Q.49 By selling a chair for rupees 572, a man gains 30%. The cost price of
the chair is -
(A) 340 (B) 400 (C) 440 (D) none of these

Q.50 A sold a watch to B at 20% gain and B sold to C at a loss of 10%.
If C bought the watch for rupees 216, at what price
did A purchase it?
(A) 200 (B) 216 (C) 250 (D) 176

Q.51 If A : B : C = 2 : 3 : 4, then A/B : B/C : C/A = ?
(A) 8 : 9 : 16 (B) 8 : 9 : 12 (C) 8 : 9 : 24 (D) 4 : 9 : 16

Q.52 If A = 1/3 B and B = 1/2 C, then A : B : C = ?
(A) 1 : 3 : 6 (B) 2 : 3 : 6 (C) 3 : 2 : 6 (D) 3 : 1 : 6

Q.53 Two trains are running in opposite directions with speeds 62 kmph
and 40 kmph respectively. If the length of one train is 250m
and they cross each other in 18 seconds , the length of the other train is --
(A) 145m (B) 230m (C) 260m (D) none of these

Q.54 A 120m long train takes 10 seconds to cross a man standing
on a platform. The speed of the train is --
(A) 10 m/sec (B) 12 m/sec (C)15 m/sec (D) 20 m/sec

Q.55 A man can row upstream at 6 km/hr and down stream at 10 km/hr.
Find man's rate in still water -
(A) 2 km/hr (B) 8 km/hr (C) 0 km/hr (D) none of these

Q.56 In what ratio must a grocer mix teas worth rupees 60 a kg and rupees
65 a kg so that by selling the mixture at rupees
68.20 a kg , he may gain 10% ?
(A) 3 : 2 (B) 3 : 4 (C) 3 : 5 (D) 4 : 5

Q.57 How much simple interest will rupees 2000 earn in 18 months
at 6% per annum ?
(A) 120 (B) 180 (C) 216 (D) 240

Q. 58 A sum of money at simple interest amounts to rupees 2240 in 2 years
and rupees 2600 in 5 years . The sum is--
(A) 1880 (B) 2000 (C) 2120 (D) Data inadequate

Q.59 The difference between compound interest and simple interest on rupees
8000 at 5% p.a. for 3 years is
(A) 50 (B) 60 (C) 61 (D) 600

Q.60 The L.C.M.of two numbers is 2310 and their H.C.F. is 30 .If one of
these numbers is 210, the second number is-
(A) 330 (B) 1470 (C) 2100 (D) 16170

Q.61 The unit of electrical resistance is--
(A) volt   (B) Ampere (C) ohm (D) none of these

Q.62 Electric potential is a - quantity
(A) vector (B) scalar (C)Both of these (D) none of these

Q.63 If three lamps of 220V 100W, 220v 50w and 220V 25W are connected
in series to a 220V supply which lamp will glow brightest.
(A)100W (B) 50W (C) 25W (D) none of these

Q.64 Two resistors of 6 ohm and 3 ohm are connected in parallel.
Find their equivalent resistances.
(A)2 ohm (B) 9 ohm (C) 5 ohm (D) None of these

Q.65 Volt meter is used to measure
(A) impedance (B) current (C) voltage (D) None of these

Q.66 Ammeter is used to measure
(A) impedance (B) current (C) voltage (D) None of these

Q.67 A Galvanometer is converted into an ammeter by -
(A) Connecting a High Resistance in parallel with Galvanometer
(B) Connecting a High Resistance in series with Galvanometer
(C)Connecting a low Resistance in parallel with Galvanometer
(D) None of these

Q.68 A Galvanometer is converted into a Voltmeter by -
(A) Connecting a High Resistance in parallel with Galvanometer
(B) Connecting a High Resistance in series with Galvanometer
(C)Connecting a low Resistance in parallel with Galvanometer
(D) None of these

Q.69 Kirchhoff's first law is based upon
(A) Law of Conservation of Mass (B) Law of Conservation of Charge
(C) Law of Conservation of energy (D) None of these

Q.70 Kirchhoff's second law is based upon
(A) Law of Conservation of Mass (B) Law of Conservation of Charge
(C) Law of Conservation of energy (D) None of these

Q.71 If n number of cells of emf E and internal resistance r are connected in
parallel then total internal resistance of all cells is
(A) nr (B) r/n (C) n+r (D)None of these

Q.72   If the separation between two charges is increased, the electric potential energy of the charges
(A) increases (B) decreases (C) remains same (D) may increase or decrease

Q.73   If a positive charge is shifted from a low-potential region to a high-potential region, the electric potential energy
(A) increases (B) decreases (C) remains same (D) may increase or decrease

Q.74   If a body is charged by rubbing it, its weight
(A) remains precisely constant (B) increases slightly (C) decreases slightly
(D) may increase slightly or may decreases slightly

Q.75   Mark out the correct options
(A)The Total charge of the universe is constant
(B)The Total positive charge of the universe is constant
(C)The Total negative charge of the universe is constant
(D) none of these

Q.76   what about charge is correct ?
(1) charge is a scalar quantity
(2) It can be two types positive or negative
(A) 1 (B) 2 (C) 1 & 2 (D) None of these

Q.77   SI unit of Charge is
(A) Stat coulomb (B) Coulomb (C) Farad (D) None of these

Q.78   Electric Field is a - quantity
(A) Tensor (B) Scalar (C) Vector (D) None of these

Q.79   what about Electric Field lines is correct ?
(1) Two lines never intersect
(2) Always flow from higher potential to lower potential
(A) 1 (B) 2 (C) 1 & 2 (D) None of these

Q.80   what about Gauss's law is correct ?
(1) Valid for closed surface only
(2) Does not depends upon shape or size of the closed surface

(A) 1 (B) 2 (C) 1 & 2 both (D) None of these

Q.81   Binary equivalent of 23 is
(A) 10111   (B) 11111 (C) 10011 (D) 10101

Q.82   Addition of binary no. 101+ 11 is
(A) 111 (B) 1100 (C) 1000 (D) None of these

Q.83 substraction of binary no. 11011 - 1110 is
(A) 1101 (B) 1100 (C) 1000 (D) 0000

Q.84 The output of AND gate is 1
(A) If both inputs are zero (B) If any one of inputs/all input is 1
(C) Both A & B are correct
(D)None of these

Q.85 The output of OR gate is 1
(A) If both inputs are zero (B) If any one of inputs is 1
(C) If All inputs are 1 (D)None of these

Q.86 A gate has the following truth table
P 1 1 0 0
Q 1 0 1 0
R 1 0 0 0
The gatr is
(A) NOR (B) OR (C) NAND (D) AND

Q. 87 If A and B are two inputs in AND gate, then AND gate has an output of 0
when the value of A and B are
(A) A=0, B =0 (B) A=0, B =1 (C) A=1, B =0 (D) all are correct

Q.88 A gate in which all the inputs must be low to get a High Output is called
(A) NOR (B) An Inverter (C) NAND (D) AND

Q.89 If two inputs of a NAND gate are shorted , the gate is equivalent to
(A) XOR (B) OR (C) NOR (D) NOT

Q.90 The binary number 11111 is equivalent to the decimal number
(A) 19 (B) 31 (C) 23 (D) 22

Q.91 No of electrons in the valence shell of a semiconductor is
(A) 1 (B) 2 (C) 3 (D) 4

Q.92 Hole is
(A) an anti-particle of electron
(B) a valency created when an electron leaves a covalent bond
(C) abscence of free electrons
(D)an artificially created particle

Q.93 When a resistor is placed in an Alternating current ckt
(A) Current leads potential
(B) Current lags behind potential
(C) Current and Potential are in same phase
(D) none of the above

Q.94 When a Inductor is placed in an Alternating current ckt
(A) Current leads potential
(B) Current lags behind potential
(C) Current and Potential are in same phase
(D) none of the above

Q.95 When a Capacitor is placed in an Alternating current ckt
(A) Current leads potential
(B) Current lags behind potential
(C) Current and Potential are in same phase
(D) none of the above

Q.96 When a Capacitor is placed in an Alternating current ckt
(A) Current leads potential by 90 degree
(B) Current leads potential by 180 degree
(C)Current leads potential by 45 degree
(D) none of the above

Q.97 When a inductor is placed in an Alternating current ckt
(A) Current lags potential by 90 degree
(B) Current lags potential by 180 degree
(C)Current lags potential by 45 degree
(D) none of the above

Q.98 The majority charge carriers in P-type semiconductors are
(A) Electrons
(B) Protons
(C) Holes
(D) Nuetrons

Q.99 When a semiconductor is heated, its resistance
(A) decreases
(B) increases
(C) Remains unchanged
(D) Nothing is definite

Q.100 The P-N junction is
(A) An ohmic resistance
(B) non ohmic resistance
(C) a positive resistance
(D) a negative resistance

4Ω ... 2Ω ... 3Ω ... 6Ω ... 10V
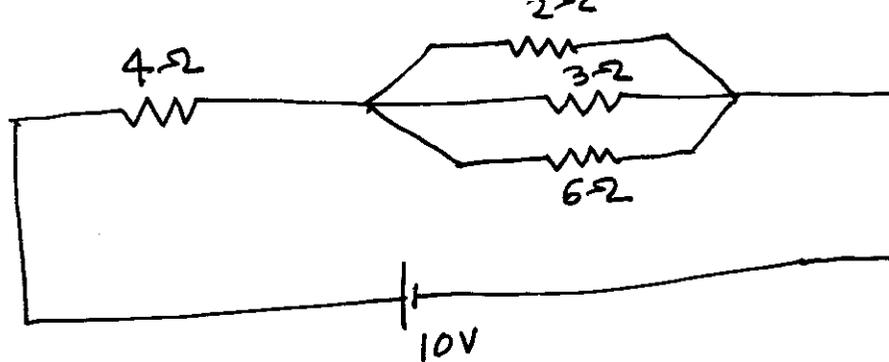
Q.101 to 108 find current and potential as directed

Q.101 The Potential at 4 ohm Resistance is
(A) 8 V
(B) 6 V
(C) 4 V
(D) 2 V

Q.102 The Potential at 6 ohm Resistance is
(A) 8 V
(B) 6 V
(C) 4 V
(D) 2 V

Q.103 The Potential at 3 ohm Resistance is
(A) 8 V
(B) 6 V
(C) 4 V
(D) 2 V

Q.104 The Potential at 2 ohm Resistance is
(A) 8 V
(B) 6 V
(C) 4 V
(D) 2 V

Q.105 The current at 4 ohm Resistance is
(A) 2A
(B) 1/3A
(C) 2/3A
(D) 1A

Q.106 The current at 6 ohm Resistance is
(A) 2A
(B) 1/3A
(C) 2/3A
(D) 1A

Q.107   The current at 3 ohm Resistance is
        (A) 2A
        (B) 1/3A
        (C) 2/3A
        (D) 1A

Q.108   The current at 2 ohm Resistance is
        (A) 2A
        (B) 1/3A
        (C) 2/3A
        (D) 1A

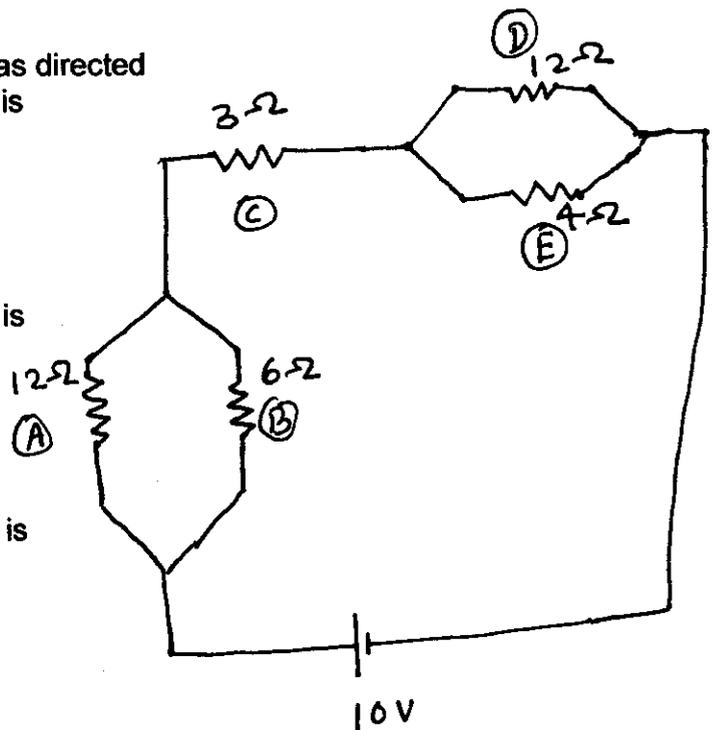Q.109 to 118 find current and potential as directed
Q.109   The Potential at A Resistance is
        (A) 4 V
        (B) 1 V
        (C) 3 V
        (D) 2 V

Q.110   The Potential at B Resistance is
        (A) 4 V
        (B) 1 V
        (C) 3 V
        (D) 2 V

Q.111   The Potential at C Resistance is
        (A) 4 V
        (B) 1 V
        (C) 3 V
        (D) 2 V

Q.112   The Potential at D Resistance is
        (A) 4 V
        (B) 1 V
        (C) 3 V
        (D) 2 V

Q.113   The Potential at E Resistance is
        (A) 4 V
        (B) 1 V
        (C) 3 V
        (D) 2 V

Q.114   The current at A Resistance is
(A) 1/3A
(B) 2/3A
(C) 1A
(D) 3/4A

Q.115   The current at B Resistance is
(A) 1/3A
(B) 2/3A
(C) 1A
(D) 3/4A

Q.116.   The current at C Resistance is
(A) 1/3A
(B) 2/3A
(C) 1A
(D) 3/4A

Q.117   The current at D Resistance is
(A) 1/3A
(B) 2/3A
(C) 1A
(D) 1/4A

Q.118   The current at E Resistance is
(A) 1/3A
(B) 2/3A
(C) 1A
(D) 3/4A

Q.119   In which frequency range, space waves are normally propagated
(A) HF
(B) VHF
(C) UHF
(D) SHF

Q.120   The process of superimposing signal frequency on the carrier
wave is known as
(A) Transmission
(B) Reception
(C) Modulation
(D) Detection

Q.121   Long distance short wave radio broadcasting uses
(A) Ground wave
(B) Ionospheric wave
(C) Direct wave
(D) Sky waves

Q.122   In a communication system noise is most likely to affect the signal
(A) At the Transmitter
(B) In the channel or in the transmission line
(C) In the information source
(D) At the receiver

Q.123   The waves used in telecommunication are
(A) IR
(B) UV
(C) Microwave
(D) Cosmic Rays

Q.124   Television signals on earth cannot be received at distances greater
than 100 KM from the transmission station.
The reason behind is that
(A) The receiver antenna is unable to detect the signal at a distance greater
than 100 km.
(B) TV pogramme consists of both audio and video signals
(C) TV signals are less powerful than radio signals.
(D) The surface of earth is curved like a sphere.

Q.125   AM is used for broadcasting because
(A) It is more noise immune than other modulation systems.
(B) It requires less transmitting power compared with other systems.
(C) Its use avoids receiver complexity.
(D) None of these.

Q.126   Range of frequencies allotted for commercial FM Radio
(A) 88 to 108 MHz.
(B) 88 to 108 KHz.
(C) 8 to 88 MHz.
(D) None of these.

Q.127   The velocity factor of a transmission line is x. If dielectric
constant of the medium is 2.6, then the value of x is.
(A) 0.26
(B) 0.62
(C) 2.6
(D) None of these.

Q.128 The radio waves of frequency 300MHz to 3000 MHz belongs to .
(A) High frequency band.
(B) Very High frequency band.
(C) Ultra Frequency band.
(D) None of these.

Q.129 The maximum peak to peak voltage of an AM wire is 24mv and the minimum peak to peak voltage is 8mv. The modulation factor is-
(A) 10%
(B) 20%
(C) 50%
(D) None of these.

Q.130 The phenomenon by which light travels in an optical fibre is -
(A) Reflection
(B) Refraction
(C) Total internal reflection
(D) None of these.

Q.131 Which of the following is not true about optical fibre -
(A) Optical fibres may have homogeneous core with a suitable cladding.
(B) Optical fibres can be of graded refractive index.
(C) Optical fibres are subject to electromagnetic interference from outside.
(D) Optical fibres have extremely low transmission loss.

Q.132 A digital signal -
(A) Is less reliable than analog signal.
(B) Is more reliable than analog signal.
(C) Is equally reliable as the analog signal.
(D) None of these.

Q.133 Modern communication systems use -
(A) Analog circuits.
(B) Digital circuits.
(C) Combination of analog and digital circuits.
(D) None of these.

Q.134 The audio signal -
(A) Can be sent directly over the air for large distance.
(B) Can not be sent directly over the air for large distance.
(C) Posses very high frequency.
(D) None of these.

Q.135   The types of modulation which are possible are -
(A) One only.
(B) Two only.
(C) Three only.
(D) None of these.

Q.136   In Amplitude Modulation -
(A) Only the amplitude is changed but frequency remains same.
(B) Both the Amplitude and frequency change equally.
(C) Both the Amplitude and frequency change unequally.
(D) None of these.

Q.137   Modulation factor determines -
(A) Only the strength of the transmitted signal.
(B) Only the quality of the transmitted signal.
(C) Both the strength & quality of the signal.
(D) None of these.

Q.138   Degree of modulation -
(A) Can take any value.
(B) Should be less than 100%.
(C) Should exceed 100%.
(D) None of these.

Q.139   Intelsat satellite is used for -
(A) Radio communication.
(B) Intercontinental communication.
(C) Radar communication.
(D) None of these.

Q.140   Intelsat satellite works as a -
(A) Transmitter.
(B) Repeater.
(C) Absorber.
(D) None of these.

Q.141   Communication channel consists of -
(A) Transmission line.
(B) Optical fibre.
(C) Free space.
(D) all of these.

Q.142   A microphone converts -
(A) Sound signals into electrical signals.
(B) Electrical signals into sound signals.
(C) Both A & B above.
(D) Neither A nor B.

Q.143 A loudspeaker converts -
(A) Sound signals into electrical signals.
(B) Electrical signals into sound signals.
(C) Both A & B above.
(D) Neither A nor B.

Q.144 Unit of capacitance is -
(A) Tesla.
(B) Henry.
(C) Farad.
(D) None of these.

Q.145 Unit of inductance is -
(A) Tesla.
(B) Henry.
(C) Farad.
(D) None of these.

Q.146 Unit of Magnetic field is -
(A) Tesla.
(B) Henry.
(C) Farad.
(D) None of these.

Q.147 To use transistor as an amplifier -
(A) emitter base junction is in forward biased and collector junction is reverse biased.
(B) biasing voltage are not required.
(C) both junction are forward biased.
(D) None of these.

Q.148 Thinnest part of a transistoris -
(A) collector.
(B) base.
(C) emitter.
(D) None of these.

Q.149 In transistor symbol the arrow shows the direction of -
(A) Current in the emitter.
(B) electron current in the emitter.
(C) holes current in the emitter.
(D) None of these.

Q.150   In an N-P-N transistor , the emitter current is-
      (A) Slightly more than collector current.
      (B) Slightly less than collector current.
      (C) Equal to collector current.
      (D) None of these.