## PROVISIONAL ANSWER KEY

Question Paper Code: 98/2017/OL Category Code: 472/2016

Exam: Lecturer in Electronics Engineering(NCA)

Medium of Question: English
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Department Technical Education

Alphacode A

Question1:-Who launched Kudumbasree programmes in Kerala?

A:-A.B. Vajpaye B:-Man Mohan Singh C:-Rajeev Gandhi D:-Narendra Modi

Correct Answer:- Option-A

Question2:-Which governor General of India was responsible for the appointment of Hunter Commission , the first Indian Education Commission of  $3^(rd)$  February 1882?

A:-Lord Lytton B:-Lord Macaulay C:-Lord Rippon

D:-Lord Curzon

Correct Answer:- Option-C

Question3:-Who established "Prathyaksha Raksha Daiva Sabha" on 1909?

A:-Pandit K.P. Karuppayyan

B:-Poikayil Yohannan

C:-Ayya Vaikunder

D:-Ayyankali

Correct Answer:- Option-B

Question4:-Which Travancore ruler proclaimed the historic temple entry proclamation on 1936?

A:-Sri Moolam Thirunal Marthanda Varma B:-Uthradom Thirunal Marthanda Varma

C:-Sethu Lakshmi Bai

D:-Shri Chithirathirunal Balarama Varma

Correct Answer:- Option-D

Question5:-Who was the 'Father of Malayalam Journalism'?

A:-Kesari Balakrishna Pillai

B:-Chengulathu Kunjirama Menon

C:-Kandathil Varghese Mappila

D:-T. Shiva Sankar

Correct Answer:- Option-B

Question6:-Who is known as 'Kerala Kalidasan'?

A:-Thunchathu Ezhuthachhan

B:-S.K. Pottekkatt

C:-Kodungalloor Kunjikuttan Thampuran

D:-Kerala Varma Valiya Koil Thampuran

Correct Answer:- Option-D

Question7:-Who was the founder and editor of the journal called 'Shreemathi'?

A:-Lalithambika Antharjanam

B:-Anna Chandi

C:-Akkamma Cheriyan

D:-Arya Pallam

Correct Answer:- Option-B

Question8:-Who wrote the biography 'Kanneerum Kinavum'?

A:-E.M.S. Namboodirippad

B:-K.P. Kesava Menon

C:-Kumaranasan

D:-V.T. Bhattathirippad

Correct Answer:- Option-D

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Question9:-Who was famous for his quotation "The whole universe is one mind between mind and mind there is no vacuum"
     A:-Sree Narayana Guru
     B:-Chattambi Swamikal
     C:-Swami Vagbhadananda
     D:-Ayya Vaikunder
     Correct Answer:- Option-B
Question10:-Which was the highest literacy award in Kerala?
     A:-Odakuzhal Award
     B:-Inanpith Award
     C:-Vallathol Award
     D:-Ezhuthachan Award
     Correct Answer:- Option-D
Question11:-If`[[x-y,z],[2x-y,w]]` =`[[-1,4],[0,5]]`, the value of `(x+y)/(z-w)` is
     A:-3/2
     B:-3
     C:--3
     D:-2
     Correct Answer:- Option-C
Question12:-If `A_(ij)` is the co-factor of the element `a_(ij)` of the determinant value of `a_(32)` `A_(32)` is
                                                                                                                 then the
     A:-110
     B:--110
     C:-22
     D:--22
     Correct Answer: - Option-A
Question13:-The ^4^(th) term of (3x-^(1)/(3x))^(6) is
     A:-20
     B:--20
     C:-20x
     D:-`(20)/(x)`
     Correct Answer:- Option-B
Question14:-If A + B = `45^(o)` then (1+tan A) (1+ tan B) is
     A:--1
     B:-3
     C:-1
     D:-2
     Correct Answer:- Option-D
Question 15:- The acute angle between the lines 3x + y - 7 = 0 and x + 2y + 9 = 0 is
     A:-`45^(o)`
     B:-`30^(o)`
     C:-`60^(o)`
     D:-`75^(o)`
     Correct Answer:- Option-A
                    x Vx - 2 V2
              ht
Question16:-
     A:-`(-3)/(sqrt(2))`
     B:-\(3)/(sqrt(2))\
     C:-`(sqrt(3))/(2)`
     D:-`(sqrt(2))/(3)`
     Correct Answer:- Option-B
Question 17:- The equation of the normal to the curve x=2t, y=`(2)/(t)` at t=1 is
     A:-x=y
     B:-x+y=0
     C:-x + y = 4
     D:-x - y = 4
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Correct Answer:- Option-A
Question 18:- int (2x^{(4)})/(1+x^{(10)}) dx is
     A:-(2)/(5) \cot^{-1}(x^{5}) + c
     B:-(2)/(5) \sin^{-1}(x^{5}) + c
     C:-(2)/(5) \tan(-1) (x^{5}) + c
     D:-(2)/(7) \log(1+x^{(10)})+c
     Correct Answer:- Option-C
Question 19:- The area included between one arch of the curve y=sin x and the x-axis is
     A:--2
     B:-2
     C:-0
     D:--1
     Correct Answer:- Option-B
Question 20:- The solution of \dy/dx + (2x)/(1+x^{(2)}) = (1)/(1+x^{(2)}) is
     A:-y=x^{(2)} +1+c
     B:-y=(c)/(x^{(2)+1})
    C:-y= \tan^(-1) x+c
     D:-y=(x+c)/(1+x^(2))
    Correct Answer:- Option-D
Question21:-
                amplifier is commonly used as a frequency multiplier.
    A:-Class A
     B:-Class B
     C:-Class C
     D:-All of the above
     Correct Answer:- Option-C
Question22:-Removing bypass capacitor across the emitter-leg resistor in a CE amplifier causes
    A:-Increase in current gain
     B:-Decrease in current gain
     C:-Increase in voltage gain
     D:-Decrease in voltage gain
     Correct Answer:- Option-D
Question23:-If the maximum collector current due to signal alone is 3mA, then zero signal collector current should be at
least equal to
     A:-6mA
     B:-2mA
     C:-3mA
     D:-1mA
     Correct Answer:- Option-C
Question24:-In a multistage amplifier, the overall frequency response is determined by the
     A:-Frequency response of each stage depending on the relationships of the critical frequencies
     B:-Frequency response of the first amplifier
     C:-Frequency response of the last amplifier
     D:-Lower critical frequency of the first amplifier and the upper critical frequency of the final amplifier
     Correct Answer:- Option-A
Question25:-Halving the power corresponds to a ______dB _____
     A:-10, decrease
     B:-3, decrease
     C:-3, increase
     D:-10, increase
     Correct Answer:- Option-B
Question26:-If negative feedback is introduced in amplifiers with shunt current configuration, the input resistance will
     A:-Increase
     B:-Remains the same
     C:-Increase, decrease or remains the same depending on input
     D:-Decrease
     Correct Answer:- Option-D
Question27:-Pinch-off voltage V (p) for an FET is the drain voltage at which
     A:-Significant drain current starts flowing
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C:-All free charges get removed from the channel D:-Avalanche break down takes place Correct Answer:- Option-C Question28:-Compared to bipolar transistor, a JFET has A:-Higher input impedance and low voltage gain B:-Lower input impedance and high voltage gain C:-Higher input impedance and high voltage gain D:-Lower input impedance and low voltage gain Correct Answer:- Option-A Question29:-Class AB operation is \_\_\_\_\_\_ operation. A:-similar to class A B:-similar to class B C:-similar to class C D:-none of the above Correct Answer:- Option-D Question 30: The ripple factor of a full-wave rectifier circuit compared to that of a half wave rectifier circuit without filter is A:-Half of that for a half wave rectifier B:-Less than half that for a half-wave rectifier circuit C:-Equal to that of a half wave rectifier D:-None of the above Correct Answer:- Option-B Question31:-A capacitor is fully charged when A:-The voltage across its plates is half of the voltage from ground to one of its plates B:-The current through the capacitor is the same as when the capacitor is discharged C:-The voltage across the plates is 0.707 of the input voltage D:-The current through the capacitor is directly proportional to the area of the plates Correct Answer:- Option-B Question32:-The saturation condition of transistor implies that A:-Collector current has highest possible value B:-Entire Vcc gets dropped across load resistor C:-It acts as a closed switch with negligible value of resistance D:-All of the above Correct Answer:- Option-D Question33:-The output of a particular Op-amp increases 8V in 12 mu s. The slew rate is A:-90 V/`mu` s B:-0.67 V/`mu` s C:-1.5 V/`mu` s D:-None of these Correct Answer:- Option-B Question34:-With zero volts on both inputs, an Op-amp ideally should have an output A:-Equal to the positive supply voltage B:-Equal to the negative supply voltage C:-Equal to zero D:-Equal to CMRR Correct Answer:- Option-C Question35:-Determine the output resistance of differential amplifier with three op-amp. The op-amp used in 741c, with A = 200000 and `R (0)`. The output and difference of input voltages are 44 and 11. A:-5.5 MΩ B:-3.5 MΩ C:-2.4 MΩ D:-1.5 MΩ Correct Answer:- Option-D Question 36:- The bandwidth of the differential amplifier increases, if the value of A:-Open Loop Voltage Gain Decreases B:-Closed Loop Voltage Gain Decreases C:-Differential Voltage Gain Decreases D:-All of the above

B:-Drain current becomes zero

Correct Answer:- Option-B

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Question 37:- If the gain of a non-inverting averaging amplifier is one. Determine the input voltages, if the output voltage is
     A:-^{V}(1) = 6v, ^{V}(2) = 3v \text{ and } ^{V}(3) = 2v
     B:-^{V} (1)^{V} = 9^{V}, ^{V} (2)^{V} = 5^{V} and ^{V} (3)^{V} = -4^{V}
     C:-^{V} (1)^{S} = 8^{V}, ^{V} (2)^{S} = -6^{V} and ^{V} (3)^{S} = 1^{V}
     D:-V_{(1)} = 7v, V_{(2)} = 4v \text{ and } V_{(3)} = -3v
     Correct Answer:- Option-D
Question38:-In differential op-amp configuration a subtractor is called as
     A:-Scaling amplifier
     B:-All of the mentioned
     C:-Summing amplifier
     D:-Difference amplifier
     Correct Answer: - Option-A
Question39:-An ideal operational amplifier has
     A:-Infinite output impedance
     B:-Zero input impedance
     C:-Infinite bandwidth
     D:-All of the above
     Correct Answer:- Option-C
Question40:-How the op-amp comparator should be choosen to get higher speed of operation?
     A:-Wider bandwidth
     B:-High slew rate
     C:-Large gain
     D:-None of the above
     Correct Answer:- Option-A
Question41:-The gain of the first order low pass filter
     A:-Increases at the rate 20dB/decade
     B:-Increases at the rate 40 dB/decade
     C:-Decreases at the rate 20dB/decade
     D:-Decreases at the rate 40dB/decade
     Correct Answer:- Option-C
Question42:-The poles of the transfer function of normalized low pass butter worth filter exists
     A:-On unit circle
     B:-Outside unit circle
     C:-Inside unit circle
     D:-None of the mentioned
     Correct Answer:- Option-A
Question43:-A stable multivibrator operating at 150 Hz has a discharge time of 2.5 ms. The duty cycle of the circuit is
     A:-50%
     B:-75%
     C:-95.99%
     D:-37.5%
     Correct Answer:- Option-D
Question44:-Calculate the output frequency in a frequency multiplier if, fin = 200 Hz is applied to a 7 divide by N-network.
     A:-1.2 kHz
     B:-1.6 kHz
     C:-1.4 kHz
     D:-1.9 kHz
     Correct Answer:- Option-C
Question45:-Convert binary 111111110010 to hexadecimal
     A:-` E E2 (16)`
     B:-`FF2 (16)`
     C:-`2FE_(16)`
     D:-`FD2 (16)`
     Correct Answer:- Option-B
Question46:-Which gate is best used as a basic comparator?
     A:-NOR
     B:-OR
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C:-AND

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D:-Exclusive-OR
     Correct Answer:- Option-D
Question47:-A decoder can be used as a demultiplexer by
     A:-tying all enable pins LOW
     B:-tying all data-select lines LOW
     C:-tying all data-select lines HIGH
     D:-using the input lines for data selection and an enable line for data input
     Correct Answer:- Option-D
Question48:-A binary code that progresses such that only one bit changes between two successive codes is
    A:-Gray code
     B:-8421 code
     C:-Excess-3 code
     D:-nine's-complement code
     Correct Answer: - Option-A
Question49:-A MOD-16 ripple counter is holding the count `1001 (2)`. What will the count be after 31 clock pulses.
     A:-`1000 (2)`
     B:-`1010 (2)`
     C:-`1011 (2)`
     D:-\1101_(2)\
    Correct Answer:- Option-A
Question50:-Select the statement that best describes Read-Only Memory (ROM).
     A:-Non-volatile, used to store information that changes during system operation
     B:-Non-volatile, used to store information that does not change during system operation
     C:-Volatile, used to store information that changes during system operation
     D:-Volatile, used to store information that does not change during system operation
     Correct Answer:- Option-B
Question51:-Which of the following logic families has the shortest propagation delay?
     A:-CMOS
     B:-BiCMOS
     C:-ECL
     D:-TTL
     Correct Answer:- Option-C
Question52:-A binary input 000 is fed to a 3 bit DAC/ADC. The resultant output is 101. Find the type of error?
     A:-Offset error
     B:-Gain error
     C:-Settling error
     D:-Linearity error
     Correct Answer:- Option-A
Question53:-The transmit buffer of serial data buffer is a
     A:-Serial-in parallel-out register
     B:-Parallel-in serial-out register
     C:-Serial-in serial-out register
     D:-Parallel-in parallel-out register
     Correct Answer:- Option-B
Question54:-The register that provides control and status information about serial port is
     A:-IP
     B:-IE
     C:-PCON and SCON
     D:-TSCON
     Correct Answer:- Option-C
Question55:-The instruction that performs logical AND operation and the result of the operation is not available is
     A:-AAA
     B:-AND
     C:-XOR
     D:-TEST
     Correct Answer:- Option-D
Question56:-Which instruction cannot force the 8086 processor out of 'halt' state?
     A:-Hold
     B:-Reset
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C:-Interrupt request
D:-Both interrupt request and reset
Correct Answer:- Option-A
Question57:-What is the carrier frequency in an AM wave when its highest frequency component is 850 Hz and the bandwidth of the signal is 50 Hz?
A:-80 Hz
B:-695 Hz
C:-625 Hz
D:-825 Hz
Correct Answer:- Option-D
Question58:-A 100 MHz carrier is frequency modulated by 10 KHz wave. For a frequency deviation of 50 KHz, calculate th
modulation index of the FM signal.  A:-100
B:-50
C:-70
D:-90
Correct Answer:- Option-B
Question59:-After passing the FM signal through mixer, what is the change in the frequency deviation $\Delta$ when the modulating frequency is doubled?
A:-Becomes 2∆
B:-Becomes Δ/2
$\Lambda^2$
C:-Becomes $\Delta^2$
D:-Remains unchanged
Correct Answer:- Option-D
Question60:-Pre emphasis is done
A:-For boosting of modulating signal voltage
B:-For modulating signals at higher frequencies
C:-In FM before modulation
D:-All of the above
Correct Answer:- Option-D
Question61:-What is the DFT of the four point sequence $x(n) = \{0, 1, 2, 3\}$ ?
A:-{6, -2 + 2j-2, -2-2j}
B:-{6, -2-2j, 2, -2+2j} C:-{6, -2+2j, -2, -2-2j}
C{6, -2+2j, -2, -2-2j} D:-{6, -2-2j, -2,-2+2j}
Correct Answer:- Option-C
Question62:-Which kind of polarization is provided by helical antennas ?
A:-Circular
B:-Elliptical
C:-Plane circular
D:-All of the above
Correct Answer:- Option-A
Question63:-Which has same probability of error ?
A:-BPSK and QPSK
B:-BPSK and ASK
C:-BPSK and PAM
D:-BPSK and QAM
Correct Answer:- Option-C
Question64:-In MSK, the difference between the higher and lower frequency is
A:-Same as the bit rate
B:-Four time the bit rate
C:-Twice of the bit rate
D:-Half of the bit rate
Correct Answer:- Option-D
Question65:-The data rate of QPSK is of BPSK.
A:-Thrice
B:-Twice
C:-Four times
D:-Same

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Correct Answer:- Option-B
Question66:-TDMA allows the user to have
     A:-Use of same frequency channel for same time slot
     B:-Use of same frequency channel for different time slot
     C:-Use of same time slot for different frequency channel
     D:-Use of different time slot for different frequency channels
     Correct Answer:- Option-B
Question67:-Unauthorised access of information from a wireless device through a bluetooth connection is called``
     A:-Bluesnarfing
     B:-Bluemaking
     C:-Bluestring
     D:-None of the above
     Correct Answer: - Option-A
Question68:-In a TWT the amplitude of resultant wave travelling down the helix
     A:-Increases exponentially
     B:-Increases linearly
     C:-Decreases exponentially
     D:-Is almost constant
     Correct Answer: - Option-A
Question69:-If the gate current of an SCR is increased, the forward breakdown voltage will
     A:-Increase
     B:-Decrease
     C:-Not be affected
     D:-Become infinite
     Correct Answer:- Option-C
Question70:-What is the range of the operating voltage level for LEDs?
    A:-5-12 mV
     B:-1.7-3.3 V
     C:-5-12 V
     D:-20-25 V
     Correct Answer:- Option-B
Question71:-To turn on UJT, the forward bias on the emitter diode should be ______ the peak point voltage.
    A:-Less than
     B:-Equal to
     C:-More than
     D:-None of the above
     Correct Answer:- Option-C
Question72:-The device that does not have the gate terminal is
    A:-Triac
     B:-FET
     C:-SCR
     D:-Diac
     Correct Answer:- Option-D
Question73:-If the negative potential on the control grid of CRT is increased, the intensity of spot
    A:-is increased
     B:-is decreased
     C:-remains the same
     D:-none of the above
     Correct Answer:- Option-B
Question74:-The sensitivity of a multimeter is given in
    Α:-Ω
     B:-amperes
     C:-kΩ/V
     D:-none of the above
     Correct Answer:- Option-C
Question75:-The controlling parameter in IGBT is the
     A:-`I (G)`
     B:-`V_(GE)`
     C:-`I (C)`
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D:-`V (CE)`
     Correct Answer:- Option-B
Question76:-In a loss less inverter, the average power absorbed in one period by the load must be
     A:-Equal to the average power supplied by the dc source
     B:-Greater than the average power supplied by the dc source
     C:-Lesser than the average power supplied by the dc source
     D:-Equal to the average power supplied by the ac source
     Correct Answer: - Option-A
Question77:-A module in a solar panel refers to
     A:-Series arrangement of solar cells
     B:-Parallel arrangement of solar cells
     C:-Series and parallel arrangement of solar cells
     D:-None of the above
     Correct Answer:- Option-C
Question78:-A laser diode normally emits
     A:-Coherent and monochromatic light
     B:-Coherent light
     C:-Monochromatic light
     D:-Neither coherent nor monochromatic light
     Correct Answer: - Option-A
Question79:-The quality of output AC voltage of cycloconverter is improved with
     A:-Increase in output voltage at reduced frequency
     B:-Increase in output voltage at increased frequency
     C:-Decrease in output voltage at reduced frequency
     D:-Decrease in output voltage at increased frequency
     Correct Answer:- Option-B
Question80:-With the increase in the intensity of light, the resistance of a photovoltaic cell
     A:-Decreases
     B:-Increases
     C:-Remains same
     D:-None of these
     Correct Answer: - Option-A
Question81:-LED
     A:-is usually made from Ge
     B:-Uses a reverse biased junction
     C:-Emits light due to recombination of holes and electrons
     D:-Gives light output which increases with increase in temperature
     Correct Answer:- Option-C
Question82:-SPST, SPDT, DPDT and DPST are
     A:-Solid state relays
     B:-Input-output interface modules
     C:-Solid state switches
     D:-Electrical relay contact types
     Correct Answer:- Option-D
Question83:-The 8 bit micro controller has
     A:-Data bus of 8 bits
     B:-Address bus of 8 bits
     C:-8K ROM
     D:-Both data and address bus 8 bits
     Correct Answer: - Option-A
Question84:-The additional features of 3G that are not available with 2G are
 i) Mobile TV
ii) MMS
iii) Video transfers
iv) GPS
    A:-i, ii, iii
     B:-i, iii, iv
     C:-ii, iii, iv
     D:-i, ii, iii, iv
     Correct Answer:- Option-B
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Question85:-5Ah in an UPS battery specification means A:-5A for 1 hour B:-1A for 5 hours C:-The output power is 5 watts D:-It requires 5 hours to charge fully Correct Answer:- Option-A Question86:-The 43-grade cement means that the compressive strength of the cement mortar cube after 28 days is A:-43 GPa B:-43 Pa C:-43 MPa D:-None of the above Correct Answer:- Option-C Question87:-The process of establishing intermediate points on a survey line joining the end points is called A:-Chaining B:-Ranging C:-Pacing D:-Surveying Correct Answer:- Option-B Question88:-Choice of type of foundation depends on A:-Soil type B:-Super imposed load C:-Material used D:-All the above Correct Answer:- Option-D Question89:-The following one is an example of electronic distance meter A:-Total station B:-Distomat C:-Electronic theodolite D:-Tacheometer Correct Answer:- Option-B Question 90:- The manufacturing process of concrete is in the following order A:-Proportioning, batching, mixing, transporting, placing, compacting and curing B:-Proportioning, mixing, batching, transporting, placing, compacting and curing C:-Proportioning, mixing, batching, transporting, placing, curing and compacting D:-Proportioning, transporting, mixing, batching, placing, compacting and curing Correct Answer:- Option-A Question91:-In a four stroke cycle engine, the cam shaft completes A:-Half the revolution of crank shaft B:-Twice the revolutions of crank shaft C:-The same revolutions as crank shaft D:-Revolutions irrespective of crank shaft revolutions Correct Answer:- Option-A Question92:-The thermal efficiency of a four stroke petrol engine as compared to two stroke petrol engine is A:-Less B:-More C:-Same for same speed D:-Same for same compression ratio Correct Answer:- Option-B Question93:-While starting the engine, the pinion gear of the starter motor meshes with A:-Fly wheel ring gear B:-Gears in gear box C:-Gears in differential D:-None of these Correct Answer: - Option-A Question94:-Rankine cycle consists of A:-Two isothermal processes and two constant pressure processes B:-Two isothermal processes and two constant volume processes

C:-Two isentropic processes and two constant volume processes D:-Two isentropic processes and two constant pressure processes

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Correct Answer:- Option-D
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Question95:-The correct order of the path of flue gas is

A:-superheater, economiser, precipitator, air preheater

B:-superheater, precipitator, economiser, air preheater

C:-superheater, economiser, air heater, precipitator

D:-superheater, air preheater, economiser, precipitator

Correct Answer:- Option-C

Question 96:-A DC source is supplying two resistors connected in parallel. If  $R_(1) = 2R_(2)$ , determine the relation between the power dissipated in them

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A:-`P_(1)` =`0.5 P_(2)`
B:-`P_(1)` =`P_(2)`
C:-`P_(1)` =`2 P_(2)`
D:-`P_(1)` =` `4 P_(2)`
Correct Answer:- Option-A
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Question 97:- If an ac voltage source of magnitude 100`sqrt(2)` sinwt is causing a current flow of 10 sin (wt-45) A, determine the load.

A:-10+j10Ω

B:-10-j10Ω

C:-10\`sqrt(2)\` +j10\`sqrt(2)\` $\Omega$ 

D:-10 $^\circ$ sqrt(2) $^\circ$ -j10 $^\circ$ sqrt(2) $^\circ$ Ω

Correct Answer:- Option-A

Question 98:- Which one among the following is not an over voltage protective system?

A:-Lightning arrester

B:-Arcing horn

C:-Surge arrestor

D:-Earth-leakage circuit breaker

Correct Answer:- Option-D

Question99:-If a dielectric slab of thickness 't' relative permeability of 2 is inserted between the parallel plates of an air capacitor, the capacitance of the new arrangement will

A:-Not change

**B:-Decrease** 

C:-Increase

D:-Become zero

Correct Answer:- Option-C

Question100:-Which one among the following is not a transmission voltage in Kerala?

A:-33 kV

B:-55 kV

C:-220 kV

D:-400 kV

Correct Answer:- Option-B