National Testing Agency

Question Paper Name:	M Tech CNS 30th May 2019 Shift2 Set1
Subject Name:	M Tech CNS
Creation Date:	2019-05-30 19:01:12
Duration:	180
Total Marks:	100
Display Marks:	Yes
Share Answer Key With Delivery Engine:	Yes
Actual Answer Key:	Yes

M Tech CNS

Group Number :	1
Group Id :	128206224
Group Maximum Duration :	0
Group Minimum Duration :	120
Revisit allowed for view? :	No
Revisit allowed for edit? :	No
Break time:	0
Group Marks:	100

Part - A Nano Science

Section Id :	128206377
Section Number :	1
Section type :	Online
Mandatory or Optional:	Optional
Number of Questions:	50
Number of Questions to be attempted:	50
Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206628
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 12820613173 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is an air-borne disease?

a) Measles
b) Typhoid
c) Pink eye
d) None of the above

Options :

12820651955. A

12820651956. B

12820651957. C

12820651958. D

Question Number : 2 Question Id : 12820613174 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Proteins consist of

a) Sugar
b) Amino acids
a) Fatty acids
b) Nucleic acids

Options :

12820651959. A

12820651960. B

12820651961. C

12820651962. D

Question Number : 3 Question Id : 12820613175 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following acid that is secreted in the stomach?

a) HCl
b) H_2SO_4
c) H_2CO_3
d) HNO_3

Options :

12820651963. A

12820651964. B

12820651965. C

12820651966. D

Question Number : 4 Question Id : 12820613176 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following blood group is considered as Universal Donor?

a) A
b) AB
c) B
d) O

Options :

12820651967. A

12820651968. B

12820651969. C

12820651970. D

Question Number : 5 Question Id : 12820613177 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

How many bones comprise the adult human skeleton?

a) 204 bones
b) 206 bones
c) 208 bones
d) 214 bones

Options :

12820651971. A

12820651972. B

12820651973. C

12820651974. D

Question Number : 6 Question Id : 12820613178 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The longest fibre on the cell body of a neuron is called

a) Myelin
b) Nerve endings
c) Axon
d) Dendrites

Options :

12820651975. A

12820651976. B

12820651977. C

12820651978. D

Question Number : 7 Question Id : 12820613179 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the process of taking food into the body called?

a) Digestion
b) Assimilation
c) Ingestion
d) Egestion

Options :

12820651979. A

12820651980. B

12820651981. C

12820651982. D

Question Number : 8 Question Id : 12820613180 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

After wound or cut in a body blood coagulates through

a) WBC
b) RBC
c) Platelets
d) Plasma

Options :

12820651983. A

12820651984. B

12820651985. C

12820651986. D

Question Number : 9 Question Id : 12820613181 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The major waste produced by human body are

a) Carbon dioxide
b) Urea
c) Both a and b
d) Only b

Options :

12820651987. A

12820651988. B

12820651989. C

12820651990. D

Question Number : 10 Question Id : 12820613182 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following interaction play a major role in stabilizing DNA

a) Hydrogen bond
b) Hydrophobic interaction
c) Vander Waal's interaction
d) Ionic interaction

Options :

12820651991. A

12820651992. B

12820651993. C

12820651994. D

Question Number : 11 Question Id : 12820613183 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The polarity of water molecule is due to

a) Its tetrahedral structure
b) Bonding electrons being attracted more to oxygen
c) Bonding electrons being attracted more to hydrogen
d) Its weak electrolytic property

Options :

12820651995. A

12820651996. B

12820651997. C

12820651998. D

Question Number : 12 Question Id : 12820613184 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The optical density of 1 means

a) 1% of the incident light is absorbed
b) 1% of the incident light is transmitted
c) 90% of the incident light is absorbed
d) 90% of the incident light is transmitted

Options :

12820651999. A

12820652000. B

12820652001. C

12820652002. D

Question Number : 13 Question Id : 12820613185 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The most abundant atom in a living organism is

a) Hydrogen
b) Oxygen
c) Nitrogen
d) Carbon

Options :

12820652003. A

12820652004. B

12820652005. C

12820652006. D

Question Number : 14 Question Id : 12820613186 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following systems of the body is primarily attacked by the HIV?

a) Cardiovascular
b) Immune
c) Respiratory
d) Reproductive

Options :

12820652007. A

12820652008. B

12820652009. C

12820652010. D

Question Number : 15 Question Id : 12820613187 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

AIDS, poliomyelitis, rabies, rubella are all

a) Viral diseases
b) Bacterial diseases
c) Fungal diseases
d) None of the above

Options :

12820652011. A

12820652012. B

12820652013. C

12820652014. D

Question Number : 16 Question Id : 12820613188 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The two polynucleotide chains in DNA are

a) Semiconservative
b) Parallel
c) Discontinuous
d) Antiparallel

Options :

12820652015. A

12820652016. B

12820652017. C

12820652018. D

Question Number : 17 Question Id : 12820613189 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Mushrooms, yeasts, moulds and toadstools are examples of

a) bacteria
b) virus
c) fungi
d) algae

Options :

12820652019. A

12820652020. B

12820652021. C

12820652022. D

Question Number : 18 Question Id : 12820613190 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which among the following is not an example of carbohydrate?

a) Maltose
b) Fructose
c) Glycogen
d) Glycine

Options :

12820652023. A

12820652024. B

12820652025. C

12820652026. D

Question Number : 19 Question Id : 12820613191 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following cannot be considered as weak interactions?

a) Vander Waals force
b) Peptide bonds
c) Hydrogen bonds
d) Ionic interactions

Options :

12820652027. A

12820652028. B

12820652029. C

12820652030. D

Question Number : 20 Question Id : 12820613192 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The organic reaction represented by equation $CH_3 - CH = O + H_2NOH$ gives $CH_3 - CH - NH + H_2O$ is an example of

a) An addition reaction
b) A condensation reaction
c) An oxidation reaction
d) An elimination reaction

Options :

12820652031. A

12820652032. B

12820652033. C

12820652034. D

Question Number : 21 Question Id : 12820613193 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is the heaviest metal?

a) Osmium
b) Mercury
c) Iron
d) Nickel

Options :

12820652035. A

12820652036. B

12820652037. C

12820652038. D

Question Number : 22 Question Id : 12820613194 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following treatment is used for removal of biological impurities?

a) Sedimentation
b) Boiling
c) Sterilization
d) distillation

Options :

12820652039. A

12820652040. B

12820652041. C

12820652042. D

Question Number : 23 Question Id : 12820613195 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The higher boiling point of the water is due to

a) Higher specific heat
b) Higher value of the dielectric constant
c) Less molecular disassociation in H_20
d) Presence of hydrogen bonding among the molecules of H_2O

Options :

12820652043. A

12820652044. B

12820652045. C

12820652046. D

Question Number : 24 Question Id : 12820613196 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The tendency to donate the electron is called

a) Oxidation
b) Reduction
c) Catalyzation
d) Self-induction

Options :

12820652047. A

12820652048. B

12820652049. C

12820652050. D

Question Number : 25 Question Id : 12820613197 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which is following statement about the electron is incorrect?

(a) It is a negatively charged particle.
(b) The mass of electron is equal to the mass of neutron.
(c) It is basic constituent of all atoms.
(d) It is a constituent of cathode rays.

Options :

12820652051. A

12820652052. B

12820652053. C

12820652054. D

Question Number : 26 Question Id : 12820613198 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following statement is wrong about photon?

(a) Photon's energy is hv
(b) Photon's rest mass is zero
(c) Momentum of photon is hv/c
(d) Photon experts no pressure

Options :

12820652055. A

12820652056. B

12820652057. C

12820652058. D

Question Number : 27 Question Id : 12820613199 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which one of the following has the shortest bond length?

(a) C-H
(b) C-N
(c) C-O
(d) C-C

Options :

12820652059. A

12820652060. B

12820652061. C

12820652062. D

Question Number : 28 Question Id : 12820613200 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The maximum number of hydrogen bonds that a water molecule can form is

(a) 1
(b) 2
(c) 3
(d) 4

Options :

12820652063. A

12820652064. B

12820652065. C

12820652066. D

Question Number : 29 Question Id : 12820613201 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the result of presence of excess green gases?

a) Deforestation
b) Decay of Earth's crust
c) Excess of heat
d) More snow on Earth

Options :

12820652067. A

12820652068. B

12820652069. C

12820652070. D

Question Number : 30 Question Id : 12820613202 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is the chemical name of the lime stone?

a) Calcium chloride
b) Calcium oxide
c) Calcium carbonate
d) Calcium sulphate

Options :

12820652071. A

12820652072. B

12820652073. C

12820652074. D

Question Number : 31 Question Id : 12820613203 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following gases is present under pressure in soft drinks?

a) O_2
b) N_2
c) CO_2
d) N_2O

Options :

12820652075. A

12820652076. B

12820652077. C

12820652078. D

Question Number : 32 Question Id : 12820613204 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What are the metallic constituents of hard water?

a) Magnesium, calcium and tin
b) Iron, tin and calcium
c) Calcium, magnesium and iron
d) Magnesium, tin and iron

Options :

12820652079. A

12820652080. B

12820652081. C

12820652082. D

Question Number : 33 Question Id : 12820613205 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following elements is non-radioactive?

a) Uranium
b) Thorium
c) Plutonium
d) Zirconium

Options :

12820652083. A

12820652084. B

12820652085. C

12820652086. D

Question Number : 34 Question Id : 12820613206 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following does not support the wave nature of light?

a) Interference
b) Polarization
c) Compton effect
d) Diffraction

Options :

12820652087. A

12820652088. B

12820652089. C

12820652090. D

Question Number : 35 Question Id : 12820613207 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

To find prominent diffraction, the size of the diffracting object should be

a) greater than the wavelength of light used
b) of the order of wavelength of light
c) diffraction does not depend on the size of the diffracting object
d) none of these

Options :

12820652091. A

12820652092. B

12820652093. C

12820652094. D

Question Number : 36 Question Id : 12820613208 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following phenomenon tells about the transverse nature of light waves?

a) interference
b) diffraction
c) polarization
d) photoelectric effect

Options :

12820652095. A

12820652096. B

12820652097. C

12820652098. D

Question Number : 37 Question Id : 12820613209 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Heisenberg uncertainty relation is most relevant for

a) only macroscopic particles
b) only microscopic particles
c) microscopic as well as macroscopic particles both
d) none of these

Options :

12820652099. A

12820652100. B

12820652101. C

12820652102. D

Question Number : 38 Question Id : 12820613210 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A phase difference π between two interfering beams is equivalent to the path difference

a) λ
b) 2λ
c) $2\pi^2/\lambda$
d) $\lambda/2$

Options :

12820652103. A

12820652104. B

12820652105. C

12820652106. D

Question Number : 39 Question Id : 12820613211 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The entire information of a system can be gathered with the help of

a) wave function
b) position
c) momentum operator
d) eigen value

Options :

12820652107. A

12820652108. B

12820652109. C

12820652110. D

Question Number : 40 Question Id : 12820613212 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A plane cuts intercepts 2a, b and 3c along the crystallographic axes in a crystal. The Miller indices of plane

a) (213)
b) (231)
c) (362)
d) None of these

Options :

12820652111. A

12820652112. B

12820652113. C

12820652114. D

Question Number : 41 Question Id : 12820613213 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The factor responsible for spontaneous polarization is

a) free electrons
b) permanent dipoles
c) atoms
d) none of these

Options :

12820652115. A

12820652116. B

12820652117. C

12820652118. D

Question Number : 42 Question Id : 12820613214 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Piezoelectric effect is the production of electricity by

a) chemical effect
b) temperature
c) varying field
d) pressure

Options :

12820652119. A

12820652120. B

12820652121. C

12820652122. D

Question Number : 43 Question Id : 12820613215 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For a photon the energy is given by (where h is the Planck's constant and υ is the frequency of light)

a) $E = h\upsilon$
b) $E = h^2\upsilon$
c) $E = h\upsilon^2$
d) $E = h/\upsilon$

Options :

12820652123. A

12820652124. B

12820652125. C

12820652126. D

Question Number : 44 Question Id : 12820613216 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The concept of matter waves was proposed by

(a) P A M Dirac
(b) A Einstein
(c) Louis de Broglie
(d) N Bohr

Options :

12820652127. A

12820652128. B

12820652129. C

12820652130. D

Question Number : 45 Question Id : 12820613217 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Energy Eigen values of a particle of mass m in an infinitely hard one dimensional box of width L, are given by

(a) $n^2h^2/(8mL^2)$
(b) $2mE/h^2$
(c) $(\sqrt{(2/L)})\sin(n\pi x/L)$
(d) None of the above

Options :

12820652131. A

12820652132. B

12820652133. C

12820652134. D

Question Number : 46 Question Id : 12820613218 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The difference in the successive energy levels of an one dimensional harmonic oscillator is

a) 0
b) $\hbar\omega/2$
c) $\hbar\omega$
d) None of the above

Options :

12820652135. A

12820652136. B

12820652137. C

12820652138. D

Question Number : 47 Question Id : 12820613219 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A Carnot heat engine operates between 500 K and 300 K. What is the efficiency of the engine?

a) 40 %
b) 60 %
c) 50 %
d) None of the above

Options :

12820652139. A

12820652140. B

12820652141. C

12820652142. D

Question Number : 48 Question Id : 12820613220 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

State of thermodynamic equilibrium in a thermally isolated system is given by

a) None of the above
b) Maximum entropy
c) Zero entropy
d) Minimum entropy

Options :

12820652143. A

12820652144. B

12820652145. C

12820652146. D

Question Number : 49 Question Id : 12820613221 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Magnetic field at a distance r from a long straight wire carrying steady current I is proportional to

a) I/r^2
b) I.r
c) I^2/r
d) I/r

Options :

12820652147. A

12820652148. B

12820652149. C

12820652150. D

Question Number : 50 Question Id : 12820613222 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Electric potential outside a uniformly charged spherical shell of radius R and total charge q at distance r (>R) from its center is proportional to

(a) q/r
(b) q/r^2
(c) q/R
(d) q/R^2

Options :

12820652151. A

12820652152. B

12820652153. C

12820652154. D

Part – B Nano Electronics

Section Id :	128206378
Section Number :	2
Section type :	Online
Mandatory or Optional:	Optional
Number of Questions:	50
Number of Questions to be attempted:	50
Section Marks:	100
Display Number Panel:	Yes
Group All Questions:	No

Sub-Section Number:	1
Sub-Section Id:	128206629
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 12820613223 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

When the temperature is absolute zero, semiconductor behaves like

(a) conductor
(b) resistor
(c) insulator
(d) variable resistor

Options :

12820652155. A

12820652156. B

12820652157. C

12820652158. D

Question Number : 52 Question Id : 12820613224 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

When an odd number is converted into binary number the LSB is

(a) 0
(b) 1
(c) 0 or 1
(d) None of these

Options :

12820652159. A

12820652160. B

12820652161. C

12820652162. D

Question Number : 53 Question Id : 12820613225 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The 2's complement representation of $(-539)_{10}$ in hexadecimal is

(a) ABE
(b) DES
(c) DBC
(d) 1E5

Options :

12820652163. A

12820652164. B

12820652165. C

12820652166. D

Question Number : 54 Question Id : 12820613226 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If $(211)_X = (152)_8$ then the value of base x is

(a) 6
(b) 5
(c) 9
(d) 7

Options :

12820652167. A

12820652168. B

12820652169. C

12820652170. D

Question Number : 55 Question Id : 12820613227 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

$(110101)_2$ is numerically equivalent to

A. $(65)_8$ B. $(53)_{10}$ C. $(46)_{16}$

The correct answer is
(a) A, B
(b) B, C
(c) A,C
(d) None of these

Options :
12820652171. A
12820652172. B
12820652173. C
12820652174. D

Question Number : 56 Question Id : 12820613228 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

$((A+\overline{A}\,B)\,(A+\overline{A}\;\overline{B}))\,(CD+\overline{CD}))+(C \oplus D) =$

(a) A
(b) 0
(c) B
(d) 1

Options :
12820652175. A
12820652176. B
12820652177. C
12820652178. D

Question Number : 57 Question Id : 12820613229 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

The Boolean expression AB+AB' +A'C+ AC is independent of

(a) A
(c) C
(b) B
(d) None of these

Options :
12820652179. A
12820652180. B

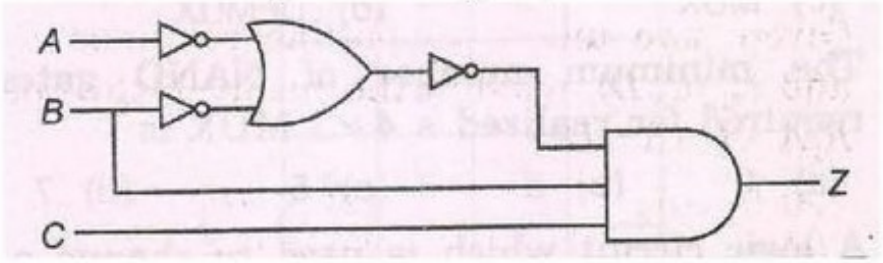
12820652181. C

12820652182. D

Question Number : 58 Question Id : 12820613230 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For the following circuit diagram, Z = ?



(a) 0

(b) $\bar{A}\ \bar{B}\ C$

(c) ABC

(d) $\bar{A}BC$

Options :

12820652183. A

12820652184. B

12820652185. C

12820652186. D

Question Number : 59 Question Id : 12820613231 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The minimum number of NAND gates are required for realized a 4 x 1 MUX is

(a) 1

(b) 2

(c) 5

(d) 7

Options :

12820652187. A

12820652188. B

12820652189. C

12820652190. D

Question Number : 60 Question Id : 12820613232 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The m-bit adder contains …… full-adder.

(a) m

(b) m+1

(c) m/2

(d) m-1

Options :

12820652191. A

12820652192. B

12820652193. C

12820652194. D

Question Number : 61 Question Id : 12820613233 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Determine the value of x if $(211)_x = (152)_8$.

(a) - 7.5

(b) - 6.5

(c) - 5.5

(d) 0

Options :

12820652195. A

12820652196. B

12820652197. C

12820652198. D

Question Number : 62 Question Id : 12820613234 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The given expression $y = \overline{\overline{A\bar{B}} + ABC + A(B + A\bar{B})}$ can be reduced to

(a) 1

(b) A

(c) $\bar{A}$

(d) $\overline{AB}$

Options :

12820652199. A

12820652200. B

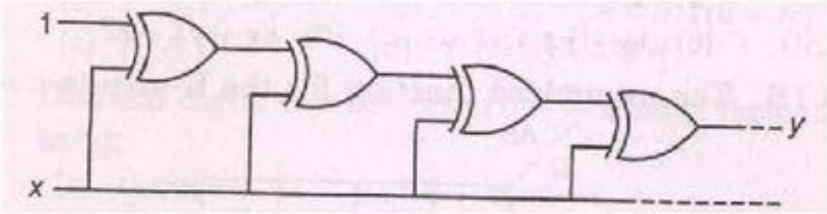
12820652201. C

12820652202. D

Question Number : 63 Question Id : 12820613235 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

If the input to digital circuit shown in following figure is consisting of a cascade of 20 XOR gate, the output is equal to



(a) X

(b) $\overline{X}$

(c) 1

(d) 0

Options :

12820652203. A

12820652204. B

12820652205. C

12820652206. D

Question Number : 64 Question Id : 12820613236 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

DRAM stores information using

(a) Capacitors

(b) Transistors

(c) Register

(d) None of thes

Options :

12820652207. A

12820652208. B

12820652209. C

12820652210. D

Question Number : 65 Question Id : 12820613237 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The nodal method of circuit analysis is based on

(a) KVL and Ohm's law

(b) KCL and Ohm's law

(c) KCL and KVL

(d) KCL, KVL and Ohm's law

Options :

12820652211. A

12820652212. B

12820652213. C

12820652214. D

Question Number : 66 Question Id : 12820613238 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The point charges $Q_1 = 1$ nC and $Q_2 = 2$ nC are at a distance apart. Which of the following statements is incorrect?

(a) The force on Q_2 is along the line joining them

(b) The force on Q_1 is repulsive

(c) As the distance between them decreases, the force on Q_1 increases linearly

(d) The force on Q_2 is the same in magnitude as that on Q_1

Options :

12820652215. A

12820652216. B

12820652217. C

12820652218. D

Question Number : 67 Question Id : 12820613239 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is the major factor for determining whether a medium is free space, lossless dielectric, lossy dielectric or good conductor?

(a) Reflection coefficient

(b) Attenuation constant

(c) Loss tangent

(d) Constitutive parameters (σ , ε , μ)

Options :

12820652219. A

12820652220. B

12820652221. C

12820652222. D

Question Number : 68 Question Id : 12820613240 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Two parallel wires separated by a distance 'd' are carrying a current '*I*' in the same direction. The magnetic field along a line running parallel to these wires and midway between them

(a) depends upon 'I'
(b) is zero
(c) depends upon 'd'
(d) depends upon the permeability of medium between the wires

Options :
12820652223. A
12820652224. B
12820652225. C
12820652226. D

Question Number : 69 Question Id : 12820613241 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

If **E** is the electric field intensity, $\nabla \bullet (\nabla \times \mathbf{E})$ is equal to

(a) **E**
(b) $|\mathbf{E}|$
(c) null vector
(d) zero

Options :
12820652227. A
12820652228. B
12820652229. C
12820652230. D

Question Number : 70 Question Id : 12820613242 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Which of the following equations is not Maxwell's equation for static electromagnetic filed in a linear homogeneous medium?

(a) $\nabla \times \mathbf{D} = 0$
(b) $\nabla \bullet \mathbf{B} = 0$
(c) $\nabla^2 \mathbf{A} = \mu_0 \mathbf{j}$
(d) $\int \mathbf{B} \bullet \, dl = \mu_0 I$

Options :
12820652231. A
12820652232. B
12820652233. C
12820652234. D

Question Number : 71 Question Id : 12820613243 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which semiconductor power device out of the following is not a current triggered device?

(a) Thyristor
(b) GTO
(c) Triac
(d) MOSFET

Options :

12820652235. A

12820652236. B

12820652237. C

12820652238. D

Question Number : 72 Question Id : 12820613244 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

As the temperature is increased, the voltage across a diode carrying a constant current

(a) increases
(b) decreases
(c) remains constant
(d) may increase or decrease depending upon the doping levels in the junction

Options :

12820652239. A

12820652240. B

12820652241. C

12820652242. D

Question Number : 73 Question Id : 12820613245 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A triac can be triggered by a gate pulse of …….. polarity.

(a) negative
(b) positive
(c) neither negative nor positive
(d) either positive or negative

Options :

12820652243. A

12820652244. B

12820652245. C

12820652246. D

Question Number : 74 Question Id : 12820613246 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A PWM switching scheme is used with a three phase inverter to

(a) Reduce the total harmonic distortion with modest filtering

(b) Minimize the load on the DC side

(c) Increase the life of the batteries

(d) Reduce low order harmonics and increase high order harmonics

Options :

12820652247. A

12820652248. B

12820652249. C

12820652250. D

Question Number : 75 Question Id : 12820613247 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Silicon diode is less suited for low voltage rectifier operation, because

(a) It can withstand high temperature

(b) Its reverse saturation current is low

(c) Its cut-in voltage is high

(d) Its breakdown voltage is high

Options :

12820652251. A

12820652252. B

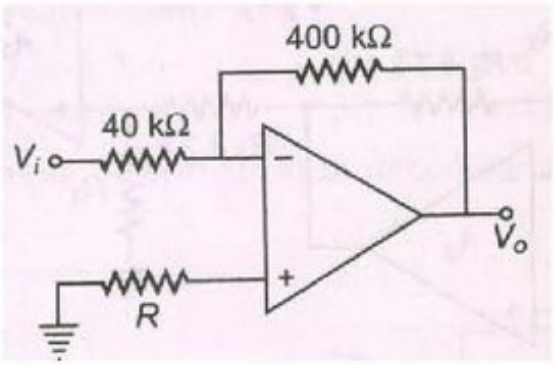
12820652253. C

12820652254. D

Question Number : 76 Question Id : 12820613248 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

For the circuit shown below the value of $A_V = V_O / V_i$ is



(a) - 10
(b) 10
(c) - 11
(d) 11

Options :

12820652255. A

12820652256. B

12820652257. C

12820652258. D

Question Number : 77 Question Id : 12820613249 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In a full adder denoting sum by S and carry by C

(a) S = 1 when two or more inputs are unity
(b) C = 1 when two or more inputs are unity
(c) C = 1 when all the inputs are unity
(d) S = 1 when all inputs are unity

Options :

12820652259. A

12820652260. B

12820652261. C

12820652262. D

Question Number : 78 Question Id : 12820613250 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The Boolean function Y= AB+CD is to be realized using only 2-input NAND gates. The minimum number of gates required is

(a) 2

(b) 3

(c) 4

(d) 5

Options :

12820652263. A

12820652264. B

12820652265. C

12820652266. D

Question Number : 79 Question Id : 12820613251 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Under high electric fields, in a semiconductor with increasing electric field

(a) The mobility of charge carriers decreases

(b) The velocity of charge carriers saturates

(c) Both (a) and (b)

(d) None of these

Options :

12820652267. A

12820652268. B

12820652269. C

12820652270. D

Question Number : 80 Question Id : 12820613252 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is a microprocessor?

a) A program – controlled device

b) A manually controlled device

c) Can be either manually controlled or program controlled

d) None of the above

Options :

12820652271. A

12820652272. B

12820652273. C

12820652274. D

Question Number : 81 Question Id : 12820613253 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Speed of microprocessor depends on

(a) Data bus width
(b) access time
(c) response time
(d) None of these

Options :

12820652275. A

12820652276. B

12820652277. C

12820652278. D

Question Number : 82 Question Id : 12820613254 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

RAM stands for

a) Random Access Memory
b) Read Access Memory
c) Rewrite Auxiliary Memory
d) None of the above

Options :

12820652279. A

12820652280. B

12820652281. C

12820652282. D

Question Number : 83 Question Id : 12820613255 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

What is a compiler?

(a) Compiler is used to translate the high-level language program into machine code
(b) Compiler is used to translate the high-level language program into Assembly language code
(c) Compiler is used to translate the machine code to high-level language program
(d) None of the above

Options :

12820652283. A

12820652284. B

12820652285. C

12820652286. D

Question Number : 84 Question Id : 12820613256 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In Intel 8085 microprocessor,

(a) the total addressable memory size is 512 kB
(b) the total addressable memory size is 256 kB
(c) the total addressable memory size is 128 kB
(d) the total addressable memory size is 64 kB

Options :

12820652287. A

12820652288. B

12820652289. C

12820652290. D

Question Number : 85 Question Id : 12820613257 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Intel 80286 was introduced in
(a) 1982
(b) 1983
(c) 1984
(d) 1985

Options :

12820652291. A

12820652292. B

12820652293. C

12820652294. D

Question Number : 86 Question Id : 12820613258 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The Pentium processor was introduced
(a) 1991
(b) 1992
(c) 1993
(d) 1994

Options :

12820652295. A

12820652296. B

12820652297. C

12820652298. D

Question Number : 87 Question Id : 12820613259 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Microprocessor 8085 is the enhanced version of …… which essentially the same construction set

(a) 6800
(b) 68000
(c) 8080
(d) 8000

Options :

12820652299. A
12820652300. B
12820652301. C
12820652302. D

Question Number : 88 Question Id : 12820613260 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

A floppy disc is a

(a) thin magnetic oxide disc coated with plastic
(b) thin plastic coated with magnetic oxide
(c) aluminium disc coated with magnetic oxide of iron
(d) None of the above

Options :

12820652303. A
12820652304. B
12820652305. C
12820652306. D

Question Number : 89 Question Id : 12820613261 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The two main functions of a microprocessor are

(a) Performing arithmetic and logic operations
(b) Controlling the memory and port
(c) Processing data and controlling the system components
(d) Running system and application programs

Options :

12820652307. A
12820652308. B
12820652309. C
12820652310. D

Question Number : 90 Question Id : 12820613262 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Intel 8085 is an 8-bit …….microprocessor

(a) C-MOS

(b) N-MOS

(c) D-MOS

(d) TTL

Options :

12820652311. A

12820652312. B

12820652313. C

12820652314. D

Question Number : 91 Question Id : 12820613263 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

As the period of the periodic signal increases, the fundamental frequency

(a) increases

(b) decreases

(c) remains same

(d) depends on T

Options :

12820652315. A

12820652316. B

12820652317. C

12820652318. D

Question Number : 92 Question Id : 12820613264 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

The material in which there is conduction primarily by holes is

(a) conductor

(b) insulator

(c) p-type semiconductor

(d) n-type semiconductor

Options :

12820652319. A

12820652320. B

12820652321. C

12820652322. D

Question Number : 93 Question Id : 12820613265 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

p-type semiconductor can be obtained by doping silicon with

(a) antimony
(b) phosphorous
(c) arsenic
(d) boron

Options :

12820652323. A

12820652324. B

12820652325. C

12820652326. D

Question Number : 94 Question Id : 12820613266 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

Which of the following is not an input device?

(a) Monitor
(b) Microphone
(c) Key board
(d) Joystick

Options :

12820652327. A

12820652328. B

12820652329. C

12820652330. D

Question Number : 95 Question Id : 12820613267 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

…… is a type of memory circuitary that holds the computer's start-up routine

(a) RIM (Read Initial Memory)
(b) RAM (Random Access Memory)
(c) ROM (Read Only Memory)
(d) Cache Memory

Options :

12820652331. A

12820652332. B

12820652333. C

12820652334. D

Question Number : 96 Question Id : 12820613268 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

The process of copying file to CD-ROM is known as

(a) Burning
(b) Zipping
(c) Digitizing
(d) Ripping

Options :
12820652335. A
12820652336. B
12820652337. C
12820652338. D

Question Number : 97 Question Id : 12820613269 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

When we apply reverse bias to a junction diode, it

(a) Lowers the potential barrier
(b) Raises the potential barrier
(c) Greatly increase the minority carrier current
(d) Greatly increase the majority carrier current

Options :
12820652339. A
12820652340. B
12820652341. C
12820652342. D

Question Number : 98 Question Id : 12820613270 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 2 Wrong Marks : 0

Avalanche breakdown in a semiconductor diode occurs when

(a) Forward current exceeds a certain value
(b) Reverse bias exceeds a certain value
(c) Forward bias exceeds a certain value
(d) The potential barrier is reduced to zero.

Options :
12820652343. A
12820652344. B

12820652345. C

12820652346. D

Question Number : 99 Question Id : 12820613271 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

One of the effects of negative feedback in amplifiers is

(a) Increase the noise
(b) Increase the harmonic distortion
(c) Decrease the bandwidth
(d) Decrease the harmonic distortion

Options :

12820652347. A

12820652348. B

12820652349. C

12820652350. D

Question Number : 100 Question Id : 12820613272 Question Type : MCQ Option Shuffling : No Display Question Number : Yes Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 2 Wrong Marks : 0

In a full wave rectifier the current in each of the diodes flows for

(a) The complete cycle of the input signal
(b) Half cycle of the input signal
(c) Less than half cycle of the input signal
(d) Zero time

Options :

12820652351. A

12820652352. B

12820652353. C

12820652354. D