

AE (Electronics) Master Question Set with Answer Keys

1)	Which of the following has higher resistivity?	
A)	Germanium	B) Silicon
C)	Both have the same resistivity	D) Depends on the voltage
Correct Answer:	B	
2)	Which of the following is responsible for electrical conductivity of elements?	
A)	Valance electrons	B) Protons
C)	Neutrons	D) All the above
Correct Answer:	A	
3)	When the valence electrons of metal atoms are used to form ionic bonds as in the case of a solid compound containing metals, the compound act as _____	
A)	A conductor	B) An insulator
C)	Both A and B	D) None of these
Correct Answer:	B	
4)	Which of the following is the SI unit for resistivity of a material?	
A)	Ohm.meter	B) Ohm/meter
C)	Ohm	D) None of these
Correct Answer:	A	
5)	Which of the following is true with respect to resistance?	
A)	The resistance of a material increases with increase in length	B) The resistance of a material decrease with increase in cross-sectional area
C)	The resistance of a material is directly proportional to the electrical resistivity	D) All the above
Correct Answer:	D	
6)	Which of the following is an equation for Ohm's law?	
A)	$I=V/R$ where I= current (amperes) , V is voltage (volts) and R is resistance (ohms)	B) $J=\sigma E$ where J= current density, $\sigma$ =conductivity and E=Electrical field
C)	Both A and B	D) None of these
Correct Answer:	C	
7)	The electrical conductivity of an intrinsic semi conductor such as mercury cadmium telluride is mainly due to _____	
A)	Protons	B) Electrons
C)	Holes	D) Both B and C
Correct Answer:	D	
8)	What happens to the resistivity of a material when it becomes super conductor?	
A)	It becomes zero	B) It reaches infinity making it an ideal insulator
C)	It doubles	D) It becomes equal to the square of the temperature (degrees K)
Correct Answer:	A	

AE (Electronics) Master Question Set with Answer Keys

9)	What is doping in the context of semiconductors?	
A)	Removing impurity atoms from the semiconducting material	B) Adding impurity atoms to the semiconducting materials
C)	Converting semiconducting material into a crystalline structure so that it becomes an ideal insulator	D) None of these
Correct Answer:	B	
10)	What happens to the Q factor of a coil when the cross-sectional area of a wire is increased?	
A)	Q factor increases	B) Q factor decreases
C)	Q factor remains the same	D) Q factor becomes zero
Correct Answer:	A	
11)	What is the SI unit for inductance?	
A)	Volt	B) Ampere
C)	Henry	D) Weber
Correct Answer:	C	
12)	What is the capacitance if the capacitor stores 0.68 C at 17 V?	
A)	0.04 F	B) 0.68 F
C)	11.56 F	D) None of these
Correct Answer:	A	
13)	In a parallel RC circuit, the output voltage is _____	
A)	More than the input voltage	B) Less than the input voltage
C)	Equal to the input voltage	D) Always equal to zero
Correct Answer:	C	
14)	Which of the following types of circuits is generally used for band pass filters?	
A)	RC circuit	B) RLC circuit
C)	RL circuit	D) LC circuit
Correct Answer:	B	
15)	Which of the following is true with a band pass filter?	
A)	A high-Q filter will have a narrow passband	B) A low-Q filter will have a narrow passband
C)	A high-Q filter will have a wide passband	D) None of these
Correct Answer:	A	
16)	Which of the following effect the current density?	
A)	Dimensions of the conducting elements	B) Density of the atmosphere
C)	Both A and B	D) None of these
Correct Answer:	A	
17)	What is Moore's law?	
A)	The number of transistors in a dense integrated circuit has tripled approximately every two years	B) The number of transistors in a dense integrated circuit has doubled approximately every three years
C)	The number of transistors in a dense integrated circuit has doubled approximately every two years	D) None of these
Correct Answer:	C	

AE (Electronics) Master Question Set with Answer Keys

18)	Which of the following effect the ampacity, defined as the maximum amount of electrical current a conductor or device can carry?	
A)	Electrical resistance of the conducting material	B) Type of insulation and its temperature rating
C)	Both A and B	D) None of these
Correct Answer:	C	
19)	Which of the following is the electronic device that reduces the power of a signal without distorting its waveform?	
A)	Amplifier	B) Attenuator
C)	Incubator	D) None of these
Correct Answer:	B	
20)	Which of the following amplifiers responds to a changing input voltage by delivering a related changing output current?	
A)	Current amplifier	B) Voltage amplifier
C)	Transresistance amplifier	D) Transconductance amplifier
Correct Answer:	D	
21)	Klystrons are used in which of the following?	
A)	Radars	B) EHF satellites
C)	Television broadcasting	D) All the above
Correct Answer:	D	
22)	What is the maximum efficiency of a Class B amplifier?	
A)	50.0%	B) 150.75%
C)	78.5%	D) 3π%
Correct Answer:	C	
23)	Which of the following class amplifiers has the highest distortion at the output?	
A)	Class A	B) Class B
C)	Class C	D) All the above have the same distortion level
Correct Answer:	C	
24)	Which of the following identifies is the steady-state voltage or current at a specified terminal of an active device with no input signal applied?	
A)	quiescent point	B) cutting point
C)	C-point	D) All the above
Correct Answer:	A	
25)	Which of the following is an advantage of CMOS?	
A)	It dissipates less power	B) Output transitions are very slow
C)	Both A and B	D) None of these
Correct Answer:	A	
26)	What is mechanical impedance?	
A)	It is the ratio of the force applied at a point to the weight of the body	B) It is the ratio of the velocity at a point to the force applied at that point
C)	It is the ratio of the force applied at a point to the resulting velocity at that point	D) None of these
Correct Answer:	C	

AE (Electronics) Master Question Set with Answer Keys

27)	Which of the following diodes is heavily doped in both p and n junctions?	
A)	Schottky diode	B) Tunnel diode
C)	Both A and B	D) None of these
Correct Answer:	B	
28)	Shockley ideal diode equation gives the I-V characteristic of an ideal diode in _____	
A)	Forward bias	B) Reverse bias
C)	No bias	D) All the above
Correct Answer:	D	
29)	What is power factor in the context of digital wattmeter?	
A)	It is real power divided by the apparent voltage	B) It is real power divided by the apparent volt-amperes
C)	It is real power divided by the apparent current	D) None of these
Correct Answer:	B	
30)	Which of the following capacitors has the highest capacitance-voltage value?	
A)	Ceramic capacitor	B) Parallel plate capacitor
C)	Electrolytic capacitor	D) Electrochemical super capacitors
Correct Answer:	D	
31)	What is a dielectric material?	
A)	It is an electrical insulator that can be polarized by an applied electric field	B) It is an electrical conductor that can be polarized by an applied electric field
C)	Both A and B	D) None of these
Correct Answer:	A	
32)	What is the output voltage in an <b>ideal</b> differential amplifier when the two input voltages are equal?	
A)	Sum of the two input voltages	B) Zero
C)	Product of the two input voltages	D) Sum of the two input voltages multiplied by A which is the gain of the amplifier
Correct Answer:	B	
33)	A graph of phase versus log-frequency used in conjunction with the magnitude plot, to evaluate how much a signal will be phase-shifted is known as _____	
A)	Frequency plot	B) Phase plot
C)	Bode plot	D) None of these
Correct Answer:	C	
34)	What is the decimal equivalent of the binary number 1011.11?	
A)	11.50	B) 11.75
C)	11.25	D) None of these
Correct Answer:	B	
35)	Which of the following is true with Intel 8085 microprocessor?	
A)	Only 8 bit only operations can be carried out	B) Some 16 bit operations can be carried out by pairing the registers
C)	It has 15 8-bit registers	D) None of these
Correct Answer:	B	

AE (Electronics) Master Question Set with Answer Keys

36)	How many times the RAL instruction needs to be executed when a number is to be multiplied by 16?	
A)	2	B) 3
C)	4	D) 5
Correct Answer:	C	
37)	When the processor needs to read from or write to a location in main memory, it first checks whether a copy of that data is in the _____.	
A)	Hard disk	B) CD ROM
C)	Cache	D) Pen drive
Correct Answer:	C	
38)	Which of the following lose their information when the power is switched off?	
A)	CD ROM	B) RAM
C)	Hard disk	D) All the above
Correct Answer:	B	
39)	The storage that is not directly accessible by the CPU is known as _____.	
A)	Cache	B) Primary storage
C)	Secondary storage	D) All the above
Correct Answer:	C	
40)	The fixed-sized piece of data handled as a unit by the instruction set or the hardware of the processor is known as _____.	
A)	Byte	B) Nibble
C)	Word	D) None of these
Correct Answer:	C	
41)	Which of the following is the result of skin effect?	
A)	The effective conducting capacity of the conductor increases	B) The effective resistance of the conductor increases
C)	The effective resistance of the conductor decreases	D) None of these
Correct Answer:	B	
42)	What happens to the skin effect as frequency increases?	
A)	It becomes more pronounced	B) It becomes less pronounced
C)	It disappears completely	D) It remains the same
Correct Answer:	A	
43)	Which of the following is an advantage of microstrip as compared to traditional waveguides?	
A)	Microstrip has lower power handling capacity	B) Less expensive
C)	Both A and B	D) None of these
Correct Answer:	B	
44)	Conversation by a mobile telephone is an example of _____.	
A)	Duplex communication	B) Half duplex communication
C)	Double duplex communication	D) None of these
Correct Answer:	A	

AE (Electronics) Master Question Set with Answer Keys

45)	Which of the following statements is true?	
A)	Both woofers and tweeters are designed to produce low frequency sounds	B) Both woofers and tweeters are designed to produce high frequency sounds
C)	A woofer is designed to produce high frequency sounds where as a tweeter is designed to produce low frequency sound	D) A woofer is designed to produce low frequency sounds where as a tweeter is designed to produce high frequency sounds
Correct Answer: D		
46)	Which of the following can be considered as waveguides?	
A)	Optical fiber	B) Coaxial cable
C)	Stripline	D) All the above
Correct Answer: D		
47)	A Varactor diode is ideal for tuning because it has _____	
A)	a reversed-biased p-n junction	B) voltage-dependent capacitance
C)	both A and B	D) none of these
Correct Answer: C		
48)	What is the time period when the frequency of a wave is 50 Hz?	
A)	0.2 sec	B) 0.02 sec
C)	2 sec	D) None of these
Correct Answer: B		
49)	What are digits in octal system?	
A)	0 to 7	B) 1 to 8
C)	Any 8 digits	D) None of these
Correct Answer: A		
50)	Which of the following is the basic storage element in digital systems?	
A)	Modem	B) Potentiometer
C)	Flip flop	D) None of these
Correct Answer: C		
51)	The output of an AND gate with two inputs A and B is equal to 1. What are the values of A and B?	
A)	A=0; B=1	B) A=1; B=1
C)	A=0; B=0	D) A=1; B=0
Correct Answer: B		
52)	The transistors of which of the following logic families are never saturated?	
A)	Transistor-Transistor Logic	B) Emitter Coupled Logic
C)	Both A and B	D) None of these
Correct Answer: B		
53)	What is the hexadecimal equivalent of the decimal number 257?	
A)	101	B) 100
C)	102	D) None of these
Correct Answer: A		

AE (Electronics) Master Question Set with Answer Keys

54)	In order to make a full adder, two half adders can be added along with _____	
A)	One OR gate	B) Two OR gates
C)	One AND gate	D) One OR and another NOR gates
Correct Answer:	A	
55)	What is ASCII?	
A)	American Standard Code for International Information	B) American Standard Code for Information Interchange
C)	American Statutory Code for Information Interchange	D) None of these
Correct Answer:	B	
56)	Which of the following is a logic gate that produces an output that is false only if all its inputs are true?	
A)	OR gate	B) AND gate
C)	NAND gate	D) All the above
Correct Answer:	C	
57)	When does the output of a NOR gate high?	
A)	When one input is low and the other is high	B) When both inputs are high
C)	When both inputs are low	D) The output of NOR gate is never high
Correct Answer:	C	
58)	What are Hamming codes?	
A)	They are a family of linear error-correcting codes	B) They can correct up to two bit errors and detect up to four bit errors
C)	Both A and B	D) None of these
Correct Answer:	A	
59)	In a Bipolar Junction Transistor, what is the value of $\alpha$ , if $\beta=99$ ?	
A)	0.01	B) 0.99
C)	1.0	D) None of these
Correct Answer:	B	
60)	What is CDMA?	
A)	Code Division Multiplex Assembly	B) Code Directed Multiple Access
C)	Code Division Multiple Access	D) Coplanar Division Multiplex Access
Correct Answer:	C	
61)	Which of the following is not a directional antenna?	
A)	Loop antenna	B) Quad antenna
C)	Monopole antenna	D) Rhombic antenna
Correct Answer:	C	
62)	The unidirectional behavior of a diode is called _____	
A)	monomorphism	B) rectification
C)	singularity	D) none of these
Correct Answer:	B	

AE (Electronics) Master Question Set with Answer Keys

63)	What is the common-emitter current gain for a transistor whose common-base current gain is 0.98?	
A)	49	B) 5
C)	50	D) None of these
Correct Answer:	B	
64)	A diode which has p and n regions heavily doped and separated by an undoped intrinsic layer is called _____	
A)	PN diode	B) PIN Diode
C)	Both A and B	D) None of these
Correct Answer:	B	
65)	What happens to the depletion layer when temperature increases?	
A)	The width of the depletion layer increases	B) The width of the depletion layer decreases
C)	The width of the depletion layer does not change	D) The width of the depletion layer increases 16 times
Correct Answer:	B	
66)	Where is Zener diode used effectively?	
A)	It is ideal for the generation of a reference voltage	B) It is ideal as a voltage stabilizer for low-current applications
C)	Both A and B	D) None of these
Correct Answer:	C	
67)	Which are the majority and minority carriers in n-type extrinsic semiconductor?	
A)	Electrons are the minority carriers and holes are majority the carriers	B) Both electrons and holes are the majority carriers
C)	Both electrons and holes are the minority carriers	D) Electrons are the majority carriers and holes are the minority carriers
Correct Answer:	D	
68)	When gate-to-source bias is less than the Threshold Voltage, a MOSFET is operating in _____	
A)	Cut-off or sub-threshold mode	B) Saturation or active mode
C)	Triode or ohmic mode	D) None of these
Correct Answer:	A	
69)	What is the relationship between wavelength and frequency for a sinusoidal wave?	
A)	As the frequency increases, wavelength decreases	B) As the frequency increases, wavelength increases
C)	As the frequency increases, wavelength increases by 2n percent	D) Wavelength and frequency are not related
Correct Answer:	A	
70)	Which of the following is not a pentavalent impurity?	
A)	Phosphorus	B) Silicon
C)	Both A and B	D) None of these
Correct Answer:	B	
71)	What happens to the electric resistance of typical intrinsic semiconductors when temperature increases?	
A)	It increases linearly	B) It increases exponentially
C)	decreases exponentially	D) it does not change
Correct Answer:	C	



AE (Electronics) Master Question Set with Answer Keys

72)	What is the SI unit of transconductance?	
A)	Ohms	B) Siemens
C)	Henry	D) None of these
Correct Answer: B		
73)	Which of the following is the electromagnetic spectrum in the microwave range frequency of 12–18 GHz?	
A)	C band	B) K band
C)	K <sub>u</sub> band	D) None of these
Correct Answer: C		
74)	The orbit of a geostationary satellite is _____	
A)	Elliptical	B) Circular
C)	Both A and B	D) None of these
Correct Answer: B		
75)	What is the wavelength of a sinusoidal wave which has a velocity of 521 m/s and a frequency of 20 Hz?	
A)	26.05 m	B) 26.05 mm
C)	1042 mm	D) None of these
Correct Answer: A		
76)	During a "Sale Period", Shoppers Stop announces a 20% discount on the price of all of its products. This results in an increase of the sales volume by 25%. What is the net effect on the revenue because of the discount?	
A)	Increase of 5%	B) Decrease of 5%
C)	Increase of 10%	D) Revenue remains constant
Correct Answer: D		
77)	The worth of a transformer depreciates at the rate of 5% every year as compared to its value in the previous year. If the present worth is Rs. 60,00,000, what was its worth when the transformer was bought by the firm 4 years back (the answers are rounded off to the nearest thousand)?	
A)	Rs. 51,08,000	B) Rs. 72,93,000
C)	Rs. 51,44,000	D) Rs. 48,87,000
Correct Answer: B		
78)	What is the next number of the series: 2, 6, 14, 26, 42, 62, ...	
A)	82	B) 80
C)	86	D) None of the above
Correct Answer: C		
79)	Which of the following countries is a member of the United Nations Security Council?	
A)	Republic of China	B) People's Republic of China
C)	India	D) Germany
Correct Answer: B		
80)	Identify the odd one out?	
A)	Ganga	B) Mahanadi
C)	Godavari	D) Krishna
Correct Answer: C		

AE (Electronics) Master Question Set with Answer Keys

81)	The capital of Assam is	
A)	Guwahati	B) Dispur
C)	Tinsukia	D) None of the above
Correct Answer:	B	
82)	The sum of two numbers is 40 and the difference is 12. What is the value of the smaller number of the two?	
A)	14	B) 26
C)	12	D) 10
Correct Answer:	A	
83)	Who succeeded Morarji Desai as the Prime Minister of India?	
A)	Indira Gandhi	B) Rajiv Gandhi
C)	Charan Singh	D) None of the above
Correct Answer:	C	
84)	The minimum educational qualification to contest for the post of member of Legislative Assembly in any state of India is	
A)	Graduate	B) Post Graduate
C)	SSLC or its equivalent	D) None of these
Correct Answer:	D	
85)	A circular field has a diameter of 14 meters. The field is divided in to four separate quadrants. What is the cost of fencing all the four quadrants at Rs. 100 per meter?	
A)	Rs. 10,000	B) Rs. 2500
C)	Rs. 7200	D) Rs. 4400
Correct Answer:	A	
86)	A solid cube with each side being of length 8 inches was painted violet, indigo and yellow on pair of opposite faces. It is then cut into 1 inch cubes. How many of the small one - inch cubes have exactly 4 faces painted?	
A)	16	B) 8
C)	4	D) None of these
Correct Answer:	D	
87)	The national game of India is	
A)	Cricket	B) Football
C)	Kabaddi	D) Hockey
Correct Answer:	D	
88)	Victoria Terminus can be found at	
A)	Mumbai	B) Bangalore
C)	Chennai	D) Kolkata
Correct Answer:	A	
89)	If you cut a bar magnet into half, the pole strength of each piece	
A)	Becomes half	B) Remains the same
C)	Becomes double	D) Becomes zero
Correct Answer:	B	

AE (Electronics) Master Question Set with Answer Keys

90)	Identify the correct combination?	
A)	Gol Gumbaz – Hassan	B) Gomateshwara statue – Shravan Belagola
C)	Bannerghatta National Park – Hubli	D) Lalbagh - Gulbarga
Correct Answer:	B	
91)	Who was the first vice president of India?	
A)	Dr. Rajendra Prasad	B) Sarvapalli Radhakrishnan
C)	Hamid Ansari	D) R. Venkatraman
Correct Answer:	B	
92)	Two dice are tossed. The probability that the total score is a multiple of 3 is:	
A)	(1/6)	B) (1/3)
C)	(1/2)	D) (7/9)
Correct Answer:	B	
93)	A 1 kilometre long train passes through a tunnel of 2 kilometre length at a speed of 1 kilometre per minute. What will be the minimum time taken for the train to inside the tunnel completely?	
A)	1 minute	B) 2 minutes
C)	3 minutes	D) 4 minutes
Correct Answer:	B	
94)	If the radius of a circle is decreased by 6%, the area of the circle	
A)	Decreases by 12.36%	B) Decreases by 11.64%
C)	Does not change at all	D) None of the above
Correct Answer:	B	
95)	The total of the ages of Amar, Akbar and Anthony is 80 years today. If Amar's age is 25 today, what was the total of the ages of Akbar and Anthony three years ago?	
A)	49 years	B) 55 years
C)	46 years	D) None of the above
Correct Answer:	A	
96)	The telephone was invented by	
A)	Alexander Graham Bell	B) J. Kepler
C)	D. Rutherford	D) James Chadwick
Correct Answer:	A	
97)	Consider a ray standing on a line. The sum of the two adjacent angles is	
A)	Greater than a straight angle	B) Less than a straight angle
C)	Equal to a straight angle	D) None of the above
Correct Answer:	C	
98)	A man's basic pay for 40 hours' week is Rs. 200. Overtime is paid at 25% of the basic rate. In certain week, he has worked overtime and his total earning is Rs. 300. He therefore, worked for a total of (in hours)	
A)	52	B) 56
C)	58	D) 62
Correct Answer:	B	

AE (Electronics) Master Question Set with Answer Keys

99)	Who has been the youngest person to have ever become a Chief Minister of any state in India?	
A)	H D Kumaraswamy	B) Akhilesh Yadav
C)	Mamata Bannerjee	D) Omar Abdullah
Correct Answer:	B	
100)	Louis Phillippe had given a discount of 10% of the marked price of a shirt. If the cost price of the shirt is Rs. 8000 and Louis Phillippe made a profit of 12.5 percent in the transaction, what is the marked price of the shirt?	
A)	Rs. 1100	B) Rs. 1000
C)	Rs. 1200	D) None of these
Correct Answer:	Question is dropped	