Question No.	Question	Correct Answer
Q.1	**Directions:** Study the following pie chart carefully and answer the questions given below. Tinka Nupoor was in a country where COVID-19 was widespread. She came to India on Monday, 17 Feb 2020. She was tested and found positive on 22 Feb, Saturday. Within the five days from Monday to Friday, she came in physical contact with 900 people, whose number for each day is given in the pie chart. Number of People in Physical Contact Out of those whom she came in contact with during these five days, only 40% were found positive when tested after three days on Tuesday, 25 Feb. Each person, who was found positive, came in physical contact with on an average 12 uninfected people each day in these three days (i.e. on Saturday, Sunday and Monday) before being tested and isolated on Tuesday. How many people she infected before being found positive? A. 900	C

|		
	B. 450 C. 360 D. 540	
Q.2	**Instructions:** Given below is a bar diagram and percentage of Hindus, Sikhs, and Muslims in a state during the years from 1991-1994 Study the above diagram and answer the following question: What was the percentage of Sikhs over Hindus in 1993? A. 25% B. 40% C. 140% D. 240%	A
Q.3	Study the following Bar diagram and answer the question: Percent profit earned by two companies A & B over the years. Profit = Income - Expenditure	D
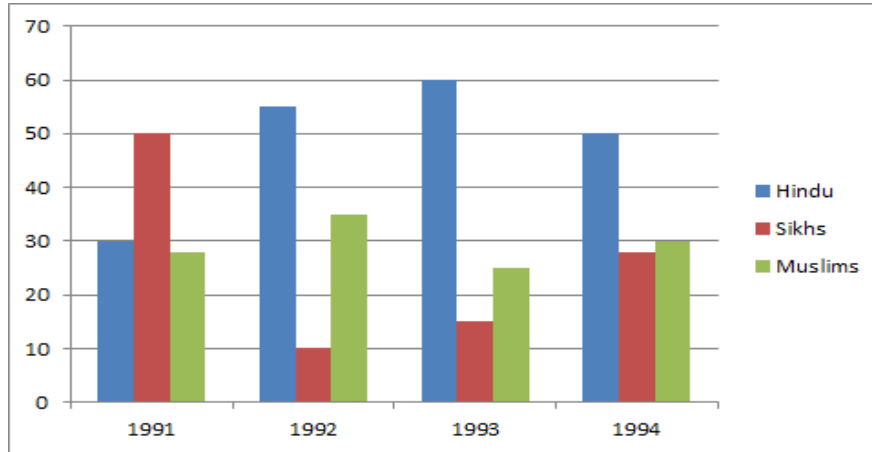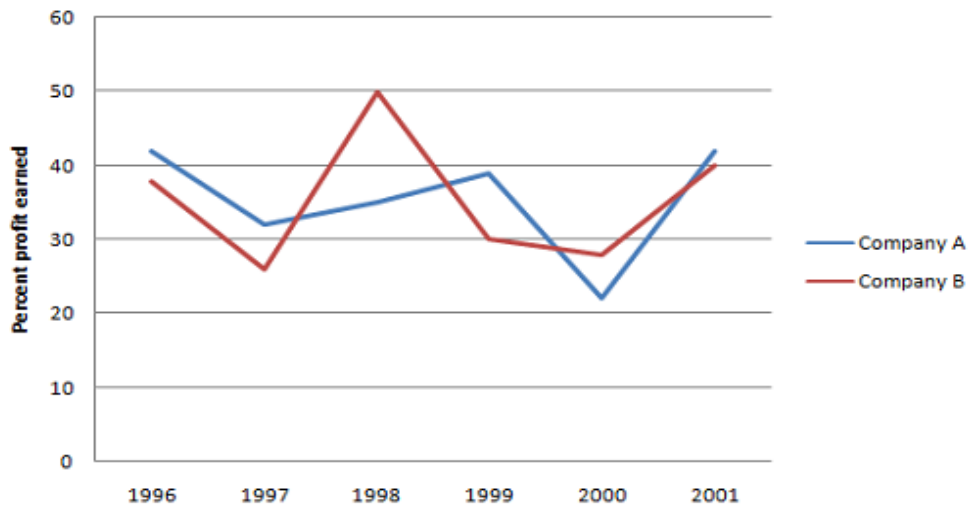
If the income of Company A in 1998 was Rs. 1,42,500 what was its expenditure in that year?

A. RS. 1,05,000
B. RS. 95,500
C. RS. 99,500
D. None of these

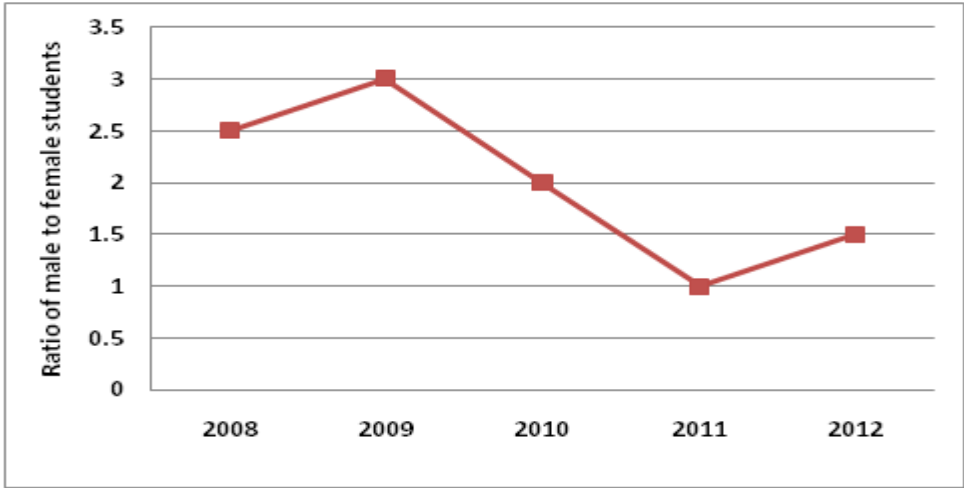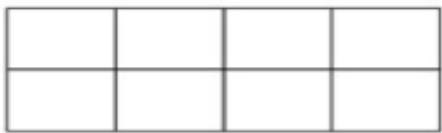|		
Q.4	Find the sum of the expression: $$\frac{1}{\sqrt{1}+\sqrt{2}}+\frac{1}{\sqrt{2}+\sqrt{3}}+\frac{1}{\sqrt{3}+\sqrt{4}}+\ldots\ldots\ldots+\frac{1}{\sqrt{80}+\sqrt{81}}$$ A. 6 B. 7 C. 8 D. 10	**C**
Q.5	tourist covers half of his journey by train at 60 km/h, half of the remainder by bus at 30 km/h and the rest by cycle at 10 km/h. The average speed of the tourist in km/h during his entire journey is A. 36 B. 30 C. 18 D. 24	**D**
Q.6	25 persons are in a room. 15 of them play hockey, 17 of them play football and 10 of them play both hockey and football. Then the number of persons playing neither hockey nor football is: A. 2 B. 3	**B**

	C. 13 D. 17	
Q.7	5 skilled workers can build a wall in 20 days: 8 semi-skilled workers can build a wall in 25 days; 10 unskilled workers can build a wall in 30 days. If a team has 2 skilled, 6 semi-skilled and 5 unskilled workers, how long will it take to build the wall? A. 20 B. 10 C. 16 D. 15	**D**
Q.8	The ratio of male to female students in a college for five years is plotted in the following line graph. If the number of female students doubled in 2009, by what percent did the number of male students increase in 2009? A. 120 B. 140 C. 160 D. 180	**B**
Q.9	The area of a square is D and its diagonal is equal to the diameter of a circle. The area of the circle is A. πD^2 B. $\frac{1}{2}\pi D^2$ C. $\frac{1}{2}\pi D$ D. πD	**C**
Q.10	The price of a jewel, passing through three hands rises on the	**A**

whole by 65%. If the first and second sellers earned 20% and 25% profit respectively, find the percentage profit earned by the third seller.

A. 10%
B. 22%
C. 18%
D. 12%

| Q.11 | Find the missing term in the following | D |

B2E, D5H, F12K, H27N, …… is

A. J56I
B. I62Q
C. Q62J
D. J58Q

| Q.12 | Two buses A and B leave the same bus depot, A towards the North and B towards the East. The bus A travels at a speed of 5 km/hr more than that of the bus B. If after four hours the distance between the two buses is 100 km, find the speed of the bus A. | C |

A. 60 kmph
B. 40 kmph
C. 20 kmph
D. 15 kmph

| Q.13 | In a population of N families, 50% of the families have three children, 30% of the families have two children and the remaining families have one child. What is the probability that a randomly picked child belongs to a family with two children? | B |

A. 3/23
B. 6/23
C. 3/10
D. 3/5

| Q.14 | In a 2 × 4 rectangle grid shown below, each cell is a rectangle. How many rectangles can be observed in the grid? | C |

A. 31
B. 27
C. 30
D. 36

Q.15	f $log_{10}5 + log_{10}(5x+1) = log_{10}(x+5)+1$ then the value of x is: A. 1 B. 2 C. 3 D. 4	C
Q.16	If $log_2 x + log_4 x + log_{16} x = \frac{21}{4}$ then the value of x is A. 3 B. 7 C. 8 D. 16	C
Q.17	After simplification the expression $\dfrac{x^{m+2n}\, x^{3m-8n}}{x^{5m-6n}}$ is A. x^n B. $\frac{1}{x^m}$ C. $\frac{1}{x^n}$ D. x^m	B
Q.18	if $pqr = 1$ then $\dfrac{1}{1+p+q^{-1}} + \dfrac{1}{1+q+r^{-1}} + \dfrac{1}{1+r+p^{-1}}$ is A. 0 B. 1 C. -1 D. 2	B
Q.19	In the following questions, two statements are given followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true and then decide which of the given conclusions logically follows from the given statements. **Statements:** Some books are pens. No pen is pencil. **Conclusions:** I. Some pens are books. II. Some pencils are books. III. Some books are not pencils. IV. All pencils are books. A. Only I follows B. Only II and III follow C. Only I and III follow	C

		D. Only I and II follow	

Q.20	The following question are given with some conclusions. Choose the options that logically follow the most.
	
	Statements: Some cats are rats. All rats are trees. Some trees are not cats.
	
	Conclusions:
	
	I. Some trees are cats.
	II. All cats are trees.
	III. All rats are cats.
	IV. No tree is cats.
	
	   A. I is valid
	   B. II is valid
	   C. III is valid
	   D. All are valid
		A

Q.21	The following question are given with some conclusions. Choose the options that logically follow the most. **Statements**: All mangoes are golden in color. No golden-colored things are cheap. **Conclusions**: I. All mangoes are cheap. II. Golden-colored mangoes are not cheap. A. Only conclusion I follows B. Only conclusion II follows C. Either I or II follows D. Neither I nor II follows	B

Q.22	Read the following information carefully and answer the question below.
	
	1. J + K means J is the son of K
	2. J - K means J is the wife of K
	3. J x K means J is the brother of K
	4. J ÷ K means J is the mother of K
	5. J = K means J is the sister of K
	what does A + B – C mean?
	
	   A. C is the father of A
	   B. C is the uncle of A
	   C. C is the son of A
	   D. C is the brother of A
		A

Q.23	How many different five-letter words can be formed using the letter from the word APPLE? A. 24 B. 60 C. 120 D. 240	B

Q.24	What is the probability of getting the sum as a prime number if two dice are thrown?
	
	    A. 5/24
	    B. 5/12
	    C. 5/30
	    D. 1/4
		B

Q.25	There are 3 blue socks, 5 brown socks, and 4 white socks in a drawer. If two socks are picked up randomly, what is the probability that the selected socks are of the same color?
	
	    A. 1
	    B. 0
	    C. 19/66
	    D. 4/11
		C

Q.26	Which of the following options is the closest in the meaning to the word given below? **FOSTERING** A. Safeguarding B. Neglecting C. Ignoring D. Nurturing	D
Q.27	Which of the following options is the closest in the meaning to the word given below? **DEFER** A. Indifferent B. Defy C. Differ D. Postpone	D
Q.28	In the following questions choose the word which is the exact OPPOSITE of the given words.	C

	Superiority	
	A. Seniority B. Juniority C. Inferiority D. Urbanity	
Q.29	Fill in the blanks with appropriate word given in the option Rajeev failed in the examination because none of his answers were _____ to the questions asked. A. allusive B. revealing C. pertinent D. referential	**C**
Q.30	Fill in the blanks with appropriate preposition He comes _____ a family which has a passion _____ playing cricket. A. from, in B. off, for C. of, in D. of, for	**D**
Q.31	Choose the correct statement for the below Kiran asked me, "Did you see the Cricket match on television last night?" A. Kiran asked me whether I saw the Cricket match on television the earlier night. B. Kiran asked me whether I had seen the Cricket match on television the earlier night. C. Kiran asked me did I see the Cricket match on television the last night. D. Kiran asked me whether I had seen the Cricket match on television the last night.	**D**
Q.32	Find the proper sequence for the following sentence It has been established that P : Einstein was Q : although a great scientist R : weak in arithmetic S : right from his school days The Proper sequence should be:	**B**

	A. SRPQ B. QPRS C. QPSR D. RQPS	
Q.33	Find out whether there is any grammatical error in below sentence. An Indian ship / laden with merchandise / got drowned in the Pacific Ocean. A. An Indian ship B. laden with merchandise C. got drowned in the Pacific Ocean D. No error	**C**
Q.34	There are _____ views on the issue of giving bonus to the employees. A. independent B. divergent C. modest D. adverse	**B**
Q.35	A person who renounces the world and practices self-discipline in order to attain salvation: A. Sceptic B. Ascetic C. Devotee D. Antiquarian	**B**
Q.36	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. **Fish out of water** A. dehydrated B. Comfortable position C. an uncomfortable position D. fish in an aquarium	**C**
Q.37	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. **Once in a blue moon** A. Very rarely	**A**

	B. Common	
	C. Predictable	
	D. Ordinary	

Q.38	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. **Keep body and soul together** A. Maintain his health B. Continue with his work C. to have just enough to sustain D. to physical and spiritual	**C**
Q.39	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. When he heard that he had once again not been selected he **lost heart.** A. became desperate B. felt sad C. became angry D. became discouraged	**D**
Q.40	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. I met him after a long time, but he gave me **the cold shoulder.** A. ignored me B. abused me C. insulted me D. scolded me	**A**
Q.41	In the following questions, four alternatives are given for the Idiom/Phrase in bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase as your answer. **Bag and baggage** A. All the clothing	**D**

B. Without any belonging
C. Leave
D. With all one's belongings

Q.42 DIRECTIONS: Read the following passages carefully and answer the questions given below them.

PASSAGE

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedental increase in urban population over the last 50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly. In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population,

C

fiscal crunch and strained human resources and efficient and quality-oriented public management.

The author in this passage has tried to focus on

A. Extension of Knowledge
B. Generation of Environmental Consciousness
C. Analytical Reasoning
D. Descriptive Statement

Q.43 DIRECTIONS: Read the following passages carefully and answer the questions given below them.

D

PASSAGE

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedental increase in urban population over the last 50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly. In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of

additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population, fiscal crunch and strained human resources and efficient and quality-oriented public management.

In the above passage, the author intends to state

A. The hazards of the urban life
B. The sufferings of the urban life
C. The awareness of human progress
D. The limits to growth

Q.44 DIRECTIONS: Read the following passages carefully and answer the questions given below them.

PASSAGE

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedental increase in urban population over the last 50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly. In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and

A

transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population, fiscal crunch and strained human resources and efficient and quality-oriented public management.

The reality of urbanization is reflected in

    A. How well the situation has been managed.
    B. How badly the situation has gone out of control.
    C. How fast has been the tempo of urbanization.
    D. How fast the environment has degraded.

Q.45 DIRECTIONS: Read the following passages carefully and answer the questions given below them.

A

PASSAGE

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedental increase in urban population over the last

50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly. In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population, fiscal crunch and strained human resources and efficient and quality-oriented public management.

The average annual increase in the number of urbanites in developing countries, from 1950 to 2000 A.D. was close to

A. 30 million
B. 40 million
C. 50 million
D. 60 million

Q.46 DIRECTIONS: Read the following passages carefully and answer the questions given below them.

PASSAGE

The popular view of towns and cities in developing countries and of urbanization process is that despite the benefits and

B

comforts it brings, the emergence of such cities connotes environmental degradation, generation of slums and squatters, urban poverty, unemployment, crimes, lawlessness, traffic chaos etc. But what is the reality? Given the unprecedental increase in urban population over the last 50 years from 300 million in 1950 to 2 billion in 2000 in developing countries, the wonder really is how well the world has coped, and not how badly. In general, the urban quality of life has improved in terms of availability of water and sanitation, power, health and education, communication and transport. By way of illustration, a large number of urban residents have been provided with improved water in urban areas in Asia's largest countries such as China, India, Indonesia and Philippines. Despite that, the access to improved water in terms of percentage of total urban population seems to have declined during the last decade of 20th century, though in absolute numbers, millions of additional urbanites, have been provided improved services. These countries have made significant progress in the provision of sanitation services too, together, providing for an additional population of more than 293 million citizens within a decade (1990-2000). These improvements must be viewed against the backdrop of rapidly increasing urban population, fiscal crunch and strained human resources and efficient and quality-oriented public management.

The popular view about the process of urbanization in developing countries is
   A. Positive
   B. Negative
   C. Neutral
   D. Unspecified

Q.47	Arrange the given words in a meaningful sequence and thus find the correct answer from alternatives. 1. Nation 2. Village 3. City 4. District 5. State A. 2,3,4,5,1 B. 2,3,4,1,5 C. 1,3,5,4,2 D. 1,2,3,4,5	A
Q.48	Arrange the given words in a meaningful sequence and thus find the correct answer from alternatives. 1. Probation 2. Interview 3. Selection 4. Appointment 5. Advertisement 6. Application A. 5,6,3,2,4,1 B. 5,6,4,2,3,1 C. 5,6,2,3,4,1 D. 6,5,4,2,3,1	C
Q.49	Arrange the given words in a meaningful sequence and thus find the correct answer from alternatives. 1. Police 2. Punishment 3. Crime 4. Judge 5. Judgement A. 3,1,2,4,5 B. 1,2,4,3,5 C. 5,4,3,2,1 D. 3,1,4,5,2	D
Q.50	In the question below, there is a sentence with jumbled up parts. Rearrange these parts, which are labelled 1, 2, 3 and 4 to produce the correct sentence. Choose the proper sequence. 1. The managing director 2. in listening to her 3. was not interested 4. explanation about why profits were lessening. A. 1,2,3,4 B. 1,2,4,3 C. 1,3,2,4 D. 2,3,4,1	C
Q.51	The BCD adder to add two decimal digits needs minimum of A. 6 full adders and 2 half adders	D

	B. 5 full adders and 3 half adders C. 4 full adders and 3 half adders D. 5 full adders and 2 half adders	
Q.52	Which of the following statements are true? I. A circuit that adds two bits, producing a sum bit and carry bit is called half adder. II. A circuit that adds two bits, producing a sum bit and carry bit is called full adder. III. A circuit that adds two bits and a carry bit producing a sum bit and a carry bit is called full adder. IV. A device that accepts the value of a Boolean variable as input and produces its complement is called an inverter. A. I & II B. II & III C. I, II, III D. I, III & IV	D
Q.53	In a J-K flip flop when J=1 and K=1 then it will be considered as: A. Set condition B. Reset condition C. No change D. Toggle condition	D
Q.54	Exclusive-OR (XOR) logic gates can be constructed from …..logic gates. A. OR gates only B. AND gates and NOT gates only C. AND gates, OR gates, and NOT gates. D. OR gates and NOT gates only	C
Q.55	To construct a MOD 9 counters, the number of flip flop needed A. 15 B. 10 C. 2^{15} D. 4	D
Q.56	Number of the times the instruction sequence below will loop before coming out of loop is MOV AL,00h A1: INC AL	D

A. 00
B. 01
C. 255
D. 256

Q.57	How does the microcontroller communicate with the external peripherals / memory? A. via I/O ports B. via register arrays C. via memory D. all of the above	A
Q.58	Which microcontrollers offer the provisional and salient software features of fault handling capability, interrupt vector efficiency and versatile addressing? A. TMS 1000 (4 bit) B. TMS 7500 (8 bit) C. Intel 8096 (16 bit) D. Intel 80960 (32 bit)	D
Q.59	How many bytes of bit addressable memory is present in 8051 based microcontrollers? A. 8 bytes B. 32 bytes C. 16 bytes D. 128 bytes	C
Q.60	Consider 8051 microcontroller, how are the status of the carry, auxiliary carry and parity flag affected if the write instruction: **MOV A,#9C** **ADD A,#64H** A. CY=0,AC=0,P=0 B. CY=1,AC=1,P=0 C. CY=0,AC=1,P=0 D. CY=1,AC=1,P=1	B
Q.61	Which of the following register in ARM7 is used to point to the location of currently executing instruction in a program? A. R1	C

	B. R5 C. R15 D. R8	
Q.62	In the ARM Nomenclature *ARMxTDMI*, D and M stand for A. Debug and Fast Multiplier units are present B. Division and Multiplier units are present C. Debugger and Multiplier units are not present D. Division and Multiplier units are not present	**A**
Q.63	Which of the following is TRUE about ARM? **I.** R13 is traditionally used as the stack pointer and stores the head of the stack in the current processor mode **II**. R14 is the link register where the core puts the return address on executing a subroutine **III**. R15 is the program counter and contains the address of the next instruction to be fetched A. Only I and II are true B. Only II and III are true C. Only I and III are true D. All I, II and III are true	**D**
Q.64	An instruction that is used to move data from an ARM Register to a Status Register (CPSR or SPSR) is called _____. A. MRC B. MRS C. MSR D. MCS	**C**
Q.65	What are the contents of R1 and R2 after MVNR1 R2 are executed, assume R2 is 0x01010101 A. R2 = 0x01010101 and R1 = 0x01010101 B. R2 = 0x01010101 and R1 = 0x10101010 C. R2 = 0x10101010 and R1 = 0x01011101 D. R2 = 0x01100110 and R1 = 0x01010101	**B**
Q.66	How many PUSH and POP operations will be needed to evaluate the following expression by reverse polish notation in a stack machine	**B**

(A * B) + (C * D / E)

    A. 4 PUSH and 3 POP instructions
    B. 5 PUSH and 4 POP instructions
    C. 6 PUSH and 2 POP instructions
    D. 5 PUSH and 3 POP instructions

Q.67	What is the value of the postfix expression? $a, b, c, d, +, -, *$ (where a=8, b=4, c=2 and d=5) A. -3/8 B. -8/3 C. 24 D. -24	D

Q.68 | Consider a list of Recursive algorithms and a list of recurrence relations as shown below. Match the following:

List-I (recursive Algorithm)	List-II (Recurrence Relation)
P: Binary Search	I: $T(n) = T(n-1) + T(0) + cn$
Q: Merge Sort	II: $T(n) = 2T(n-1) + 1$
R: Quick Sort	III: $T(n) = 2T\left(\frac{n}{2}\right) + cn$
S: Tower of Hanoi	IV: $T(n) = T\left(\frac{n}{2}\right) + O(1)$

    A. P-II, Q-III, R-IV, S-I
    B. P-IV, Q-III, R-I, S-II
    C. P-III, Q-II, R-IV, S-I
    D. P-IV, Q-II, R-I, S-III

B

Q.69 | Which of the following mode declaration is used in C++ to open a file for input?

A. ios::app
B. in :: ios
C. ios :: file
D. ios :: in

D

Q.70 | A lower bound for any comparison-based sorting algorithm is

    A. O(n)
    B. O(n²)
    C. O(nlogn)
    D. O(logn)

C

Q.71	Let w(n) and A(n) denote respectively, the worst case and average case running time of an algorithm executed on an input of size n. which of the following is ALWAYS TRUE? A. $A(n) = \Omega(w(n))$ B. $A(n) = \Theta(w(n))$ C. $A(n) = O(w(n))$ D. $A(n) = o(w(n))$	C
Q.72	Which of the following operators is the correct option for power(ab)? A. a ^ b B. a**b C. a ^ ^ b D. a ^ * b	B

Q.73	Find the output of the following Python program?
	
	i = 0
	while i < 3:
	    print(i)
	    i += 1
	else:
	    print(0)
	
	A. 0 1 2 3 0
	B. 0 1 2 0
	C. 0 1 2
	D. Error
		B

Q.74	What is the main purpose of WoT (Web of Things) in the IoT? A. Improve the usability and interoperability B. Reduce the security C. Complex the development D. Increase the cost	A
Q.75	Which of the following precedence order is correct in Python? A. Parentheses, Exponential, Multiplication, Division, Addition, Subtraction B. Multiplication, Division, Addition, Subtraction, Parentheses, Exponential C. Division, Multiplication, Addition, Subtraction, Parentheses, Exponential D. Exponential, Parentheses, Multiplication, Division, Addition, Subtraction	A
Q.76	Using the RSA public key crypto system, if p=13, q=31 and d=7 then the value of e is	B

	A. 101 B. 103 C. 105 D. 107	
Q.77	What is the full form of CIA under information security? A. Confidentiality Integrity Availability B. Criminal Investigation Agency C. Cost Information Agency D. Credit Integrity Assement	A
Q.78	Which of the following are used to generate a message digest by the network security protocols? P: RSA Q: SHA-1 R: DES S: MD5 A. P and R only B. Q and R only C. Q and S only D. R and S Only	C
Q.79	Attacking the victims through fake URL resembling that of a valid financial Institution is called_____ . A. Worms B. Phishing attack C. Trojans D. Computer Viruses	B
Q.80	All of the following are example of real security and privacy threats except A. Hackers B. Virus C. Spam D. worm	C
Q.81	_____ is the timeframe from when the loophole in security was introduced till the time when the bug was fixed. A. Time-frame of vulnerability B. Window of vulnerability C. Time-lap of vulnerability	B

	D. Entry-door of vulnerability	

Q.82	Which of the following are the Cyber crimes?
	
	1. Cyber crimes against persons.
	2. Cyber crimes against property.
	3. Cyber crimes against government.
	4. Cyber crimes against animal?
	   A. 1, 2, 3 only
	   B. 2, 3, 4 only
	   C. 1, 3, 4 only
	   D. 2, 3 only
		A

Q.83	Information Technology Act in India was amended in _____
	
	   A. 2000
	   B. 2004
	   C. 2008
	   D. 2010
		C

Q.84	Which of the following should be included in the scope of penetration testing?
	
	   A. DNS server
	   B. Mail server
	   C. Communication links
	   D. All of the above
		D

Q.85	Which of the following most closely simulates the actions of a real world attacker/hacker?
	
	   A. Vulnerability assessment
	   B. Security audit
	   C. Penetration testing
	   D. None of the above
		C

Q.86	Which of the following is one of the important documents to be signed before the penetration test to safeguard interest of the concerned parties?
	
	   A. Legal agreement
	   B. Service level agreement
	   C. Non-disclosure agreement (NDA)
	   D. All of the above
		C

Q.87	Which of the following malware types makes kernel-level changes to hide its presence?
	   A. Spyware
	   B. Worm
	   C. Keylogger
	   D. Rootkit
		D

Q.88	Which of the following is a small piece of information that is sent from a website to the client system and is retained for further tracking? A. HTTP B. Cookie C. XML D. None of the above	B
Q.89	Audit is a fact-finding process that compare actual results with ...... A. Specified standards and plans B. Expected results C. Premature results D. Preliminary results	A
Q.90	Who among the following can be appointed as auditor of a company? A. A partner or a director of the company B. A person of unsound mind C. Mr Y who owes Rs 500 to the company D. Mr Z the holder of C.A. certificate	D
Q.91	CCFP stands for? A. Cyber Certified Forensics Professional B. Certified Cyber Forensics Professional C. Certified Cyber Forensics Program D. Certified Cyber Forensics Product	B
Q.92	Periodic assessment of security vulnerability in computer systems is called _____audit. A. Threat B. Attack C. Hacking D. Security	D
Q.93	A digital signature needs a(n) _____ system A. Symmetric key B. Asymmetric key C. Either A or B D. Neither A nor B	A
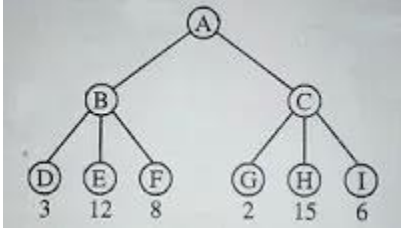
Q.94	Netsparker and Burp Suite Professional are examples of: A. Web-focused vulnerability detection tools B. Antimalware C. Web application firewalls D. VPNs	A
Q.95	Web application firewalls (WAFs) help prevent which application layer attack? A. XSS B. SQL injection C. DDoS D. All of the above	D
Q.96	Which application security testing method is considered most costly? A. Static application security testing (SAST) B. Dynamic application security testing (DAST) C. Mobile application security testing (MAST) D. All of the above	B
Q.97	What is the most common buffer overflow attack? A. Heap-based buffer overflow attack B. Stack-based buffer overflow attack C. Integer buffer overflow attack D. Unicode buffer overflow attack	B
Q.98	This is the forging of an e-mail header so that the message appears to have originated from someone or somewhere other than the actual source. A. footprinting B. nonrepudiation C. e-mail spoofing D. finger	C
Q.99	This is a compromised Web site that is being used as an attack launch point in a denial-of-service attack. A. bastion host B. packet monkey C. dongle D. Zombie	D
Q.100	_____ is a special type of vulnerability that doesn't possess risk. A. Vulnerabilities without risk	A

	B. Vulnerabilities without attacker C. Vulnerabilities without action D. Vulnerabilities no one knows	
Q.101	Which of the following is not an informed search technique? A. Hill climbing search B. Best first search C. A* search D. Depth first search	D
Q.102	Which of the following is a widely used and effective machine learning algorithm based on the idea of bagging? A. Decision Tree B. Regression C. Classification D. Random Forest	B
Q.103	How do you handle missing or corrupted data in a dataset? A. Drop missing rows or columns B. Replace missing values with mean/median/mode C. Assign a unique category to missing values D. All of the above	D
Q.104	When performing regression or classification, which of the following is the correct way to pre-process the data? A. Normalize the data -> PCA -> training B. PCA -> normalize PCA output -> training C. Normalize the data -> PCA -> normalize PCA output -> training D. None of the above	A
Q.105	_____ is process of extracting previously non known valid and actionable information from large data to make crucial business and strategic decisions. A. Data Management B. Data base C. Data Mining D. Meta Data	C
Q.106	Which machine learning models are trained to make a series of decisions based on the rewards and feedback they receive for their actions? A. Supervised learning B. Unsupervised learning C. Reinforcement learning D. All of the above	C

Q.107	Dimensional modeling in Data mining refers to A. view and interrogate data B. define structures and store data C. retrieve information only D. none of these	A
Q.108	Which of the following is the data mining tool? A. Borland C B. Weka C. Borland C++ D. Visual C	B
Q.109	A famous technique used in data warehousing A. OODM B. OLTP C. OLAP D. ODBC	C
Q.110	Two fundamental goals of Data Mining are ____ A. Analysis and Description B. Data cleaning and organizing the data C. Prediction and Description D. Data cleaning and organizing the data	C
Q.111	The various aspects of data mining methodologies is/are .... i) Mining various and new kinds of knowledge ii) Mining knowledge in multidimensional space iii) Pattern evaluation and pattern or constraint-guided mining. iv) Handling uncertainty, noise, or incompleteness of data A. i, ii and iv only B. ii, iii and iv only C. i, ii and iii only D. All i, ii, iii and iv	D
Q.112	_____ is the application of data mining techniques to discover patterns from the Web. A. Text Mining. B. Multimedia Mining. C. Web Mining D. Link Mining.	C
Q.113	Data mining can also applied to other forms such as	D

	i) Data streams
	ii) Sequence data
	iii) Networked data
	iv) Text data
	v) Spatial data
	
	    A. i, ii, iii and v only
	    B. ii, iii, iv and v only
	    C. i, iii, iv and v only
	    D. All i, ii, iii, iv and v	

Q.114	KDD (Knowledge Discovery Database) process in data mining is consists of _____ steps.
	    A. 4
	    B. 5
	    C. 7
	    D. 9
		D

Q.115	Facebook Tackles Big Data With _____
	
	    A. Prism
	    B. Prism Data
	    C. Project Prism
	    D. ProjectBid
		C

Q.116	_____ has the world's largest Hadoop cluster.
	
	    A. Google
	    B. LinkedIn
	    C. Facebook
	    D. IBM
		C

Q.117	_____ phase sorts the data & _____ creates logical clusters.
	
	    A. Reduce, YARN
	    B. MAP, YARN
	    C. REDUCE, MAP
	    D. MAP, REDUCE
		D

Q.118	____ provides performance through distribution of data and fault tolerance through replication
	
	    A. HDFS
	    B. PIG
	    C. HIVE
	    D. HADOOP
		A

Q.119	Sentiment Analysis is an example of	A

	1. Regression 2. Classification 3. clustering 4. Reinforcement Learning A. 1, 2 and 4 B. 1, 2 and 3 C. 1 and 3 D. 1 and 2	
Q.120	A 4-input neuron has weights 1, 2, 3 and 4. The transfer function is linear with the constant of proportionality being equal to 2. The inputs are 4, 10, 5 and 20 respectively. The output will be: A. 238 B. 76 C. 119 D. 123	A
Q.121	Match the following learning modes w.r.t. characteristics of available information for learning: <table><tr><td>a. Supervised</td><td>(i) Instructive information on desired responses explicitly specified by a teacher</td></tr><tr><td>b. Recording</td><td>(ii) A priori design information for memory storing</td></tr><tr><td>c. Reinforcement</td><td>(iii) Partial information about desired responses, or only "right" or "wrong" evaluative information</td></tr><tr><td>d. unsupervised</td><td>(iv) No information about desired responses</td></tr></table> A. a-(i),b-(ii),c-(iii),d-(iv) B. a-(i),b-(iii),c-(ii),d-(iv) C. a-(ii),b-(iv),c-(iii),d-(i) D. a-(ii),b-(iii),c-(iv),d-(i)	A
Q.122	Which of the following statements is true ? A. The sentence S is a logical consequence of S1,..., Sn if and only if S1∧S2∧........∧Sn→S is satisfiable. B. The sentence S is a logical consequence of S1,..., Sn if and only if S1∧S2∧........∧Sn→S is valid.	B

	C. The sentence S is a logical consequence of S1,..., Sn if and only if S1∧S2∧........∧Sn∧¬S is consistent. D. The sentence S is a logical consequence of S1,..., Sn if and only if S1∧S2∧........∧Sn∧S is inconsistent.	
Q.123	In alpha-beta pruning, _____ is used to cut off' the search at maximizing level only and _____is used to cut off the search at minimizing level only. A. alpha, beta B. beta, alpha C. alpha, alpha D. beta, beta	**B**
Q.124	Consider the following statements about a perception: I. Feature detector can be any function of the input parameters. II. Learning procedure only adjusts the connection weights to the output layer. Identify the correct statement out of the following: A. I is false and II is false B. I is true and II is false C. I is false and II is true D. l is true and II is true	**D**
Q.125	Consider the following game tree in which root is a maximizing node and children are visited left to right. What nodes will be pruned by the alpha-beta pruning? A. I B. HI C. CHI D. GHI	**B**
Q.126	Which one of the following models is not suitable for accommodating any change? A. Build & Fix Model B. Prototyping Model C. RAD Model D. Waterfall Model	**D**

Q.127	Which model can be selected if user is involved in all the phases of SDLC? A. Waterfall Model B. Prototyping Model C. RAD Model D. both Prototyping Model & RAD Model	C
Q.128	Which of the following is not project management goal? A. Keeping overall costs within budget B. Delivering the software to the customer at the agreed time C. Maintaining a happy and well-functioning development team D. Avoiding customer complaints	D
Q.129	While estimating the cost of software, Lines of code (LOC) and Function points (FP) are used to measure which of the following? A. Length of code B. Size of software C. Functionality of software D. None of the above	B
Q.130	Which level of CMM is for process management? A. Initial B. Repeatable C. Defined D. Optimizing	D
Q.131	MTTF stands for A. Minimum time to failure B. Mean time to failure C. Maximum time to failure D. None of the mentioned	B
Q.132	Match the following for methods of MIS development: | Column1	Column2
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1. Joint Application Design	a. Delivers functionality in rapid iteration measured in weeks and needs frequent communication, development, testing and delivery
2. Computer Aided Software Engg	b. Reusable applications generally with one specific function. It is closely linked with idea of web services and service oriented architecture.		B

3. Agile development	c. Tools to automate many tasks of SDLC	
4. Component based technology	d. A group-based tool for collecting user requirements and creating system design. Mostly used in analysis and design stages of SDLC	

A. 1-a, 2-c, 3-b, 4-d
B. 1-d, 2-c, 3-a, 4-b
C. 1-c, 2-d, 3-a, 4-b
D. 1-c, 2-a, 3-d, 4-b

Q.133	The relationship of data elements in a module is called A. Coupling B. Modularity C. Cohesion D. Granularity	C
Q.134	Match the following: | Column1	Column2
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1. Good quality	i. Program does not fail for a specified time in a given environment'
2. Correctness	ii. Meets the functional requirements
3. Predictable	iii. Meets both functional and non-functional requirements
4. Reliable	iv. Process is under statistical control | A. 1-iii, 2-ii, 3-iv, 4-i B. 1-ii, 2-iii, 3-iv, 4-i C. 1-i, 2-ii, 3-iv, 4-iii D. 1-i, 2-ii, 3-iii, 4-iv	B
Q.135	In CMM, the life cycle activities of requirements analysis, design, code, and test are described in: A. Software Product Engineering B. Software Quality Assurance C. Software Subcontract Management D. Software Quality Management	A

Q.136	In software project planning, work Breakdown structure must be .... A. A graph B. A tree C. A Euler Graph D. None of these	**B**
Q.137	Complete each of the following sentences in List-I on the left hand side by filling in the word or phrase from the List-II on the right hand side that best completes the sentence: <table><tr><td>List-I</td><td>List-II</td></tr><tr><td>1. Determining whether you have built the right system is called ....</td><td>i. Software testing</td></tr><tr><td>2. Determining whether you have built the system right is called ....</td><td>ii.Software verification</td></tr><tr><td>3. .... is the process of demonstrating the existence of defects or providing confidence that they do not appear to be present.</td><td>iii.Software debugging</td></tr><tr><td>4. .... is the process of discovering the cause of a defect and fixing it.</td><td>iv.Software validation</td></tr></table> A. 1-ii, 2-iv, 3-I, 4-iii B. 1-ii, 2-iv, 3-iii, 4-i C. 1-iv, 2-ii, 3-iii, 4-i D. 1-iv, 2-ii, 3-I, 4-iii	**D**
Q.138	Agile Software Development is based on A. Incremental Development B. Iterative Development C. Waterfall Model D. Both A and B	**D**
Q.139	Amongst which of the following is/are the type of agile methodologies, A. Scrum B. FDD C. DSDM	**D**

	D. All of the above	
Q.140	Agile software engineering refers, A. A philosophy and a set of development guidelines B. An active and continuous communication between developers and customers C. Encourages customer satisfaction D. All of these	D
Q.141	Which one from the following is highly associated activity of project planning? A. Keep track of the project B. Compare actual and planned progress and costs C. Identify the activities, milestones and deliverables produced by a project D. Both b and c	C
Q.142	Software testing is A. the process of establishing that errors are not present B. the process of establishing confidence that a program does what it is supposed to do C. the process of executing a program to show that it is working as per specifications D. the process of executing a program with the intent of finding errors	D
Q.143	Function points can be calculated by A. UFP * CAF B. UFP * FAC C. UFP * Cost D. UFP * Productivity	A
Q.144	Which of the following is NOT true of continuous integration in Agile? A. It involves moving code from a development to test environment B. It involves moving code in large amounts	C

	C. It involves moving code in frequent intervals D. It is most effectively done through automation	
Q.145	Which of the following is NOT a main stage in a customer relationship life cycle? A. Customer acquisition B. Customer development C. Customer satisfaction D. Customer annoyance	D
Q.146	Which of the following is true for quality Work Breakdown Structures? A. Program/Project Management can occur at any level of the WBS B. Contain at least three levels of decomposition C. Clearly communicates project scope to all stakeholders D. Does not include a WBS Dictionary Correct Answer	C
Q.147	Which foundational project management document includes information on how the final products, services or outcomes of the project will be measured? A. Project Charter B. Preliminary Project Scope Statement C. Product Scope Description D. Work Breakdown Structure	B
Q.148	Continuous implementation is _____ process. A. an agile B. a temporary C. an inexpensive D. a complicated	A
Q.149	Customized products and services for customers and interaction to individual customers are part of A. Retailers management B. customer relationship management C. company relationship management D. supplier management	B
Q.150	Project risk factor is considered in which model A. spiral model B. waterfall model C. prototyping model D. None of these	A