Question Paper with Final (Revised) Answer Key for the Post of	**Assistant Computer Programmer**	**held on 20-06-2019**

Itemcode : **CP1001**

Q1: The switching expression corresponding to f(W,X,Y,Z)= Σ(1,4,5,9,11,12) is

A	XY'Z' + W'Y'Z +WX'Z
B	WXY' + WYZ + X'Y'Z
C	WYZ' + W'XY' + WY'Z'
D	W'XZ + WYZ' + XYZ'

Correct Ans: **A**

Itemcode : **CP1002**

Q2: What is the minimum number of NAND gates required to implement a 2-input Exclusive Or function without using any other logic gate?

A	6
B	5
C	4
D	3

Correct Ans: **C**

Itemcode : **CP1003**

Q3: How many pulses are needed to change the contents of a 8-bit upcounter from 10101100 to 00100111 ?

A	123
B	124
C	133
D	134

Correct Ans: **A**

Itemcode : **CP1004**

Q4: The number 43 in 2's complement representation is

A	01010101
B	00101011
C	10101011
D	11010101

Correct Ans: **B**

Itemcode : **CP1005**

Q5: How many 32K X 1 RAM chips are needed to provide a memory capacity of 256 K-bytes?

A	128
B	64
C	32
D	8

Correct Ans: **B**

Itemcode : **CP1006**

Q6: Consider the following:

i. two concurrent activities interact to cause a processing error

ii. two users of the DBMS are interacting with different files at the same time

A race condition occurs when

A	only (i) occurs
B	only (ii) occurs
C	both (i) and (ii) occur
D	Neither (i) nor (ii) occurs

Correct Ans: **A**

Itemcode : **CP1007**

Q7: Which of the following systems calls does not return control to the calling point on termination?

A	fork
B	exec
C	ioctl
D	longjmp

Correct Ans: **B**

Itemcode : **CP1008**

Q8: The size of virtual memory depends on the size of the

A	Cache
B	Primary memory
C	Address bus
D	Secondary memory

Correct Ans: **C**

Itemcode : **CP1009**

Q9:

	Which of the following involves context switch?
A	system call
B	privileged instruction
C	floating point exception
D	all the above
Correct Ans: **A**	

Itemcode : **CP1010**

Q10: Producer- consumer problem can be solved using:

A	Semaphore
B	Event counters
C	Monitors
D	All of the above
Correct Ans: **D**	

Itemcode : **CP1011**

Q11: Consider a main memory with five page frames and the following sequence of page references: 4, 9, 3, 4, 10, 2, 7, 4, 9, 10, 4, 7, 3, 2, 4. Which one of the following is true with respect to page replacement policies First In First Out (FIFO) and Least Recently Used (LRU)?

A	FIFO incurs 2 more page faults than LRU
B	FIFO incurs 1 more page faults than LRU
C	LRU incurs 2 more page faults than FIFO
D	Both incur the same number of page fault
Correct Ans: **D**	

Itemcode : **CP1012**

Q12: Consider the following set of processes that need to be scheduled on a single CPU. All the times are given in milliseconds.

Process Name	Arrival Time	Execution Time
P1	0	6
P2	3	2
P3	5	4
P4	7	6
P5	10	3

Using the Shortest remaining time first scheduling algorithm, the average process turnaround time is _____.

A	4.8 msec
B	6.0 msec

C	7.2 msec
D	9.6 msec
Correct Ans: **C**	

Itemcode : **CP1013**

Q13: Consider a disk pack with a seek time of 4 milliseconds and rotational speed of 10000 rotations per minute (RPM). It has 600 sectors per track and each sector can store 512 bytes of data. Consider a file stored in the disk. The file contains 2000 sectors. Assume that every sector access necessitates a seek, and the average rotational latency for accessing each sector is half of the time for one complete rotation. The total time (in milliseconds) needed to read the entire file is _____.

A	14020
B	14040
C	14200
D	14400
Correct Ans: **A**	

Itemcode : **CP1014**

Q14: Assume a page reference string for a process with m frames (initially all empty). The page reference string has length *l* with m distinct page numbers occurring in it. For any page-replacement algorithms, what is a lower bound & an upper bound on the number of page faults?

A	m/2, *l*
B	l,m
C	m, *l*/2
D	m, *l*
Correct Ans: **D**	

Itemcode : **CP1015**

Q15: A non-planar graph with minimum number of vertices has

A	6 edges, 4 vertices
B	9 edges, 5 vertices
C	9 edges, 6 vertices
D	10 edges, 5 vertices
Correct Ans: **D**	

Itemcode : **CP1016**

Q16: Given statements:

S_1: The set of positive rational numbers is countable.

S_2: The set of real numbers is countable.

A	Both S_1 and S_2 are true
B	Both S_1 and S_2 are false
C	S_1 is true and S_2 is false
D	S_1 is false and S_2 is true
Correct Ans: **C**	

Itemcode : **CP1017**

Q17: How many reflexive relations are there on a set with *n* elements?

A	2^n
B	$2^{n(n-1)}$
C	n^2
D	n/2
Correct Ans: **B**	

Itemcode : **CP1018**

Q18: Let f and g be functions from {11, 12,13, 14} to {a, b, c, d} and from {a, b, c, d} to {11, 12, 13, 14}, respectively, with f (11) = d, f (12) = c, f (13) = a, and f (14) = b, and g(a) = 12, g(b) = 11, g(c) = 13, and g(d) = 12.

Which of the following is correct?

A	Only inverse of f exists
B	Only inverse of g exists
C	Inverse of both f and g exist
D	Inverse of both f and g do not exist
Correct Ans: **A**	

Itemcode : **CP1019**

Q19: Some group (G, *) is known to be abelian. Then, which one of the following is true for G?

A	$f = f^{-1}$ for every $g \in G$
B	$f = f^2$ for every $g \in G$
C	$(f*g)^2 = f^2 * g^2$ for every $f, g \in G$
D	G is of finite order
Correct Ans: **C**	

Itemcode : **CP1020**

Q20:

Let X and Y be sets and X' and Y' denote compliments of the sets X and Y. The set $(X-Y) \cup (Y-X) \cup (X \cap Y)$ is equal to

A	$X \cap Y$
B	$X' \cap Y'$
C	$X \cup Y$
D	$X' \cup Y'$

Correct Ans: **C**

Itemcode : **CP1021**

Q21: In a class of 400 students, 175 students have taken Artificial Intelligence course, 110 students have taken Cloud Computing course, 90 students have taken Software Engineering course; 75 students have taken both Artificial Intelligence and Cloud Computing, 60 students have taken both Artificial Intelligence and Software Engineering, 55 students have taken both Cloud Computing and Software Engineering, 40 have taken all the three courses. How many students have not taken any of the three courses?

A	175
B	185
C	215
D	325

Correct Ans: **A**

Itemcode : **CP1022**

Q22: If the function *h* is defined by $h(x)=x^2+1$ on the set {-2,-1,0,1,2}, What will be its range?

A	{-1,0,1}
B	{-2,-1,0}
C	{1,2,5}
D	{1,3,5}

Correct Ans: **C**

Itemcode : **CP1023**

Q23: The minimum number of cards to be dealt from an arbitrarily shuffled deck of 52 cards to guarantee that three cards are from same suit is

A	3
B	8
C	9
D	12

Correct Ans: **C**

Itemcode : **CP1024**

Q24: How many edges are there in a forest of *t* trees containing total of *v* vertices ?

A	v^t
B	*v-t*
C	*v+t*
D	*v*t*

Correct Ans: **B**

Itemcode : **CP1025**

Q25: A binary tree T has 90 leaves. What is the number of internal nodes in the binary tree T having two children

A	91
B	89
C	45
D	44

Correct Ans: **B**

Itemcode : **CP1026**

Q26: In a reflexive relation on R

A	each element of R is related to itself
B	each ordered pair (x, y) is matched by (y, x)
C	if xRy and yRz then xRz
D	All of the above

Correct Ans: **A**

Itemcode : **CP1027**

Q27: Consider an undirected graph G with 50 nodes. The maximum number of edges to be included in G so that the graph is not connected is

A	2450
B	1225
C	1176
D	2352

Correct Ans: **C**

Itemcode : **CP1028**

Q28: The time complexity of merging two sorted arrays of size M and N is

A	O(max(M),max(N))
B	O(min(M),min(N))

C	O(MN)
D	O(M+N)
Correct Ans: **D**	

Itemcode : **CP1029**

Q29: A program takes as input a balanced binary search tree with n leaf nodes and computes the value of a function b(X) for each node X. If the cost of computing b(X) is min(number of leaf nodes in left subtree, number of leaf nodes in right subtree of X) then the worst case time complexity of the Program is

A	O(n)
B	O(nlog(n))
C	$O(n)^2$
D	$O(2^n)$
Correct Ans: **B**	

Itemcode : **CP1030**

Q30: For the given data set :18,14,15,16,12,11,17,13, the result after three iterations of merge sort will be :

A	11,12,13,14,15,16,17,18
B	14,15,16,18,11,12,17,13
C	14,18,15,16,11,12,13,17
D	13, 14,11,12,17, 18, 15,16
Correct Ans: **A**	

Itemcode : **CP1031**

Q31: A data file of 2000 characters contains only the characters U-Z, with the frequencies as indicated in table :

	U	V	W	X	Y	Z
Frequency in thousand	45	13	12	16	9	5

using the variable-length code by Huffman codes, the file can be encoded with

A	5280 bits
B	5040 bits
C	4920 bits
D	4480 bits
Correct Ans: **D**	

Itemcode : **CP1032**

Q32: How many different full binary trees are possible with 7 nodes?

A	127

B	132
C	429
D	1430
Correct Ans: **C**	

Itemcode : **CP1033**

Q33: Of the following tree structure, which is, efficient considering space and time complexities?

A	Almost complete Binary Tree
B	Complete Binary Tree
C	Full Binary Tree
D	Incomplete Binary Tree
Correct Ans: **B**	

Itemcode : **CP1034**

Q34: Which is the simplest file structure?

A	Indexed
B	Random
C	Sequential
D	Sequential Indexed
Correct Ans: **C**	

Itemcode : **CP1035**

Q35: Kruskal's algorithm for finding a minimum spanning tree of a weighted graph G with *v* nodes and *e* edges has the time complexity of

A	$O(v^2)$
B	O(ev)
C	O(e+v)
D	O(elogv)
Correct Ans: **D**	

Itemcode : **CP1036**

Q36: A vertex cover of an undirected graph G(V, E) is a subset V1 $\subseteq$V vertices such that

A	If (u, v) $\in$E then u $\in$V1 and v $\in$V1
B	If (u, v) $\in$E then u $\in$V1 or v $\in$V1
C	Each pair of vertices in V1 is connected by an edge
D	All pairs of vertices in V1 are not connected by an edge

Correct Ans: **B**

Itemcode : **CP1037**

Q37: Let G be a graph with v vertices and e edges. What is the upper bound on the running time of depth first search on search on G, when G represented as an adjacency matrix?

A	O(v)
B	O(v+e)
C	O(e)
D	$O(v^2)$

Correct Ans: **D**

Itemcode : **CP1038**

Q38: Consider the In-order and Post-order traversals of a tree as given below:

In-order : j e n k o p b f a c l g m d h i

Post-order : j n o p k e f b c l m g h i d a

The Pre-order traversal of the tree shall be

A	a b f e j k n o p c d g l m h i
B	a b c d e f j k n o p g l m h i
C	a b e j k n o p f c d g l m h i
D	j e n o p k f b c l m g h i d a

Correct Ans: **S** **(S Denotes question scrapped and no credit to Candidates.)**

Itemcode : **CP1039**

Q39: The solution of recurrence relation: R(n) = 2R(floor (n)) + logn is

A	O(n log log logn)
B	O(n log logn)
C	O(log logn)
D	O(logn log logn)

Correct Ans: **S** **(S Denotes question scrapped and no credit to Candidates.)**

Itemcode : **CP1040**

Q40: What is the maximum number of parenthesis that will appear on the stack at any one time for parenthesis expression given by:

(( ) ((( ))) (( )))

A	3
B	4

C	5
D	6
Correct Ans: **B**	

Itemcode : **CP1041**

Q41: What is the value of the postfix expression given below?

a b c d + − ∗(where a = 8, b = 4, c = 2 and d = 5)

A	−38
B	-83
C	24
D	-24
Correct Ans: **D**	

Itemcode : **CP1042**

Q42: A source S = {S1, S2, S3} emits symbols with P= {a, b, c }. The entropy of source S is maximum when

A	a=b=c
B	a=b=c=0.5
C	a≠b≠c
D	None of the above
Correct Ans: **A**	

Itemcode : **CP1043**

Q43: A binary tree whose left and right subtree differ in height at most by one node is called

A	AVL Tree
B	Black and White tree
C	Binary Search tree
D	Strictly binary tree
Correct Ans: **A**	

Itemcode : **CP1044**

Q44: How many bytes of data can be sent in 25 seconds over a serial link with baud rate of 4800 in asynchronous mode with odd parity and two stop bits in the frame?

A	5,000 bytes
B	10,000 bytes
C	6,000 bytes
D	12,000 bytes
Correct Ans: **B**	

Itemcode : **CP1045**

Q45: If a class B network on the Internet has a subnet mask of 255.255.248.0, what is the maximum number of hosts per subnet?

A	1022
B	1023
C	2046
D	2047

Correct Ans: **C**

Itemcode : **CP1046**

Q46: Which of the following is not a client-side server application?

A	E-mail
B	Internet Chat
C	Ping
D	Web browsing

Correct Ans: **C**

Itemcode : **CP1047**

Q47: Which of the following performs modulation and demodulation?

A	coaxial cable
B	fiber optics
C	modem
D	satellite

Correct Ans: **C**

Itemcode : **CP1048**

Q48: Which of the following is required to communicate between two computers?

A	communications software
B	protocol
C	communication hardware
D	all of above including access to transmission medium

Correct Ans: **D**

Itemcode : **CP1049**

Q49: In communication satellite, multiple repeaters are known as

A	detector
B	modulator

C	stations
D	transponders
Correct Ans: **D**	

Itemcode : **CP1050** **Q50:** To send a data packet using datagram,	
A	connection will be established before data transmission.
B	connection is not established before data transmission.
C	no connection is required.
D	a broadband connection is required.
Correct Ans: **C**	

Itemcode : **CP1051** **Q51:** Which of the following does not affect bandwidth?	
A	the amount of network traffic
B	the software protocols of the network
C	the type of information being transmitted
D	the type of network connection
Correct Ans: **C**	

Itemcode : **CP1052** **Q52:** The CRC code word for the data bit sequence 1101 using the generator polynomial: $x^3 + x + 1$.	
A	101
B	100
C	010
D	001
Correct Ans: **D**	

Itemcode : **CP1053** **Q53:** The count-to-infinity problem is associated with	
A	Distance vector routing algorithm
B	Flooding algorithm
C	Hierarchical routing algorithm
D	Link state routing algorithm
Correct Ans: **A**	

Itemcode : **CP1054**

Q54: Which of these following is not a characteristic of a relational database model?	
A	Complex logical relationships
B	Records
C	Tables
D	Treelike structures
Correct Ans: **D**	

Itemcode : **CP1055**

Q55: Consider the following schedules involving two transactions.

$$S_1 : r_1(X); r_1(Y); r_2(X); r_2(Y); w_2(Y); w_1(X)$$
$$S_2 : r_1(X); r_2(X); r_2(Y); w_2(Y); r_1(Y); w_1(X)$$

Which one of the following statements is TRUE?

A	Both S_1 and S_2 are conflict serializable.
B	Both S_1 and S_2 are not conflict serializable.
C	S_1 is conflict serializable and S_2 is not conflict serializable.
D	S_1 is not conflict serializable and S_2 is conflict serializable.
Correct Ans: **D**	

Itemcode : **CP1056**

Q56: Consider relations S(a, b) and T(c, d).

The result of
select distinct a, b from S, T

is guaranteed to be same as S, provided

A	S has no duplicates and T is non-empty
B	S and T have no duplicates
C	T has no duplicates and S is non-empty
D	S and T have the same number of tuples
Correct Ans: **A**	

Itemcode : **CP1057**

Q57: In SQL, relations can contain null values, and comparisons with null values are treated as unknown. Suppose all comparisons with a null value are treated as false. Which of the following pairs is not equivalent?

A	y = 5, not (not (y = 5)
B	y = 5, y> 4 and y < 6, where y is an integer
C	y < 5, not(y = 5)

D	None of the above
Correct Ans: **C**	

Itemcode : **CP1058**

Q58: Which one of the following statements about normal forms is FALSE?

A	BCNF is stricter than 3NF
B	Lossless, dependency-preserving decomposition into 3NF is always possible
C	Lossless, dependency-preserving decomposition into BCNF is always possible
D	Any relation with two attributes is in BCNF
Correct Ans: **C**	

Itemcode : **CP1059**

Q59: Let E and F be two entities in an ER diagram with simple single-valued attributes. R and S are two relationships between E and F, where R is one-to-many and S is many-to-many. R and S do not have any attributes of their own. What is the minimum number of tables required to represent this situation in the relational model?

A	2
B	3
C	4
D	5
Correct Ans: **B**	

Itemcode : **CP1060**

Q60: Which of the following is FALSE about B/B+ tree?

A	B/B+ trees grow upward while Binary Search Trees grow downward.
B	Time complexity of search operation in B/B+ tree is better than Red Black Trees in general.
C	Number of child pointers in a B/B+ tree node is always equals to number of keys in it plus one.
D	A B/B+ tree is defined by a term minimum degree. And the minimum degree depends on hard disk block size, key and address sizes.
Correct Ans: **B**	

Itemcode : **CP1061**

Q61: Consider the relation scheme R=(A, B, C, D, E, F, G, H, I, J) and the set of functional dependencies {{A, B} → {C},{B} → {E, F},{A, D} → {G, H},{G} → {I},{H} → {J}} on R. What is the key for R ?

A	{A, B}
B	{A, B,D}
C	{A, B, D, G, H}
D	{A}

Correct Ans: **B**

Itemcode : **CP1062**

Q62: The concept of locking can be used to solve the problem of

A	Lost update
B	uncommitted dependency
C	inconsistent data
D	All of the above

Correct Ans: **D**

Itemcode : **CP1063**

Q63: In mapping of ERD to DFD

A	relations in ERD has 1 to 1 correspondence to processes in DFD
B	relationships in ERD has 1 to 1 correspondence to flows in DFD
C	entities in ERD should correspond to an existing entity/store in DFD
D	entity in DFD is converted to attributes of an entity in ERD

Correct Ans: **C**

Itemcode : **CP1064**

Q64: Which of the following testing techniques supports automatic rerun of some tests for the software whenever a slight change to the product is made.

A	Acceptance testing
B	Exhaustive testing
C	Regression testing
D	Non-linear testing

Correct Ans: **C**

Itemcode : **CP1065**

Q65: Equivalence partitioning is a _____ method that divides the input domain of a program into classes of data from which test cases can be derived.

A	White-box testing
B	Black-box testing
C	Cohesion testing
D	Coupling testing

Correct Ans: **B**

Itemcode : **CP1066**

Q66: Boehm has proposed

A	Iterative model

B	Waterfall model
C	Prototyping model
D	Spiral model
Correct Ans: **D**	

Itemcode : **CP1067**

Q67: Functionality of a software is tested using

A	Glassbox testing
B	Whitebox testing
C	Blackbox testing
D	Glassbox testing and Whitebox testing
Correct Ans: **C**	

Itemcode : **CP1068**

Q68: The property of sticking together of data elements within a single module is called

A	Coupling
B	Cohesion
C	Decomposition
D	Modularity
Correct Ans: **B**	

Itemcode : **CP1069**

Q69: Improving processing efficiency or performance or restructuring of software to improve changeability is known as

A	Corrective maintenance
B	Perfective maintenance
C	Adaptive maintenance
D	Code maintenance
Correct Ans: **B**	

Itemcode : **CP1070**

Q70: Thoma's-write rule is _____.

A	Two phase locking protocol
B	Timestamp ordering protocol
C	One phase locking protocol
D	Sliding window protocol
Correct Ans: **B**	

Itemcode : **CP1071**

Q71: What is difference between Non-deterministic Finite Automaton (NFA) and Deterministic Finite Automaton (DFA)?

A	A DFA uses a number to label states while a NFA uses a set of numbers to label states.
B	A DFA doesn't allow two transitions to different states for the same input symbol while a NFA doesn't have this restriction.
C	In a DFA, we can't use the same name to label two different states while in a NFA we can use the same name to label two different states.
D	A DFA only has one unique diagram while a NFA may have more than one different diagrams.

Correct Ans: **B**

Itemcode : **CP1072**

Q72: Which of the following is incorrect statement?

A	If a Non-deterministic FAs (NFA) has n states, then its corresponding Deterministic FAs (DFA) must have more than n states.
B	If a NFA has n halt states, its corresponding DFA must have at least n halt states.
C	If a NFA's start state is also a halt state, then in its corresponding DFA, the start state must also be a halt state.
D	If a string s is recognized by a NFA after checking through n transitions, then s can be recognized by the corresponding DFA using not more than n transitions.

Correct Ans: **A**

Itemcode : **CP1073**

Q73: Which of the following languages CANNOT be defined by Finite Automata?

A	{ab, abab, ababab, abababab, ...}
B	{abb, aabbbb, aaabbbbbb, aaaabbbbbbbb, ...}
C	{a, b, aa, bb, aaa, bbb, aaaa, bbbb, ...}
D	{a, aa, aba, abba, abbba, abbbba, abbbbba, ...}

Correct Ans: **B**

Itemcode : **CP1074**

Q74: Which of the following regular expressions describes the language containing strings having "010" as substring?

A	(010)*
B	(0|1)*010(0|1)*
C	(0|1)*010
D	010(0|1)*

Correct Ans: **B**

Itemcode : **CP1075**

Q75:

	Which language is generated by the following grammar: X -> ϵ| a Y a Y -> ϵ |b X b, where X is start symbol of the grammar.
A	{ ϵ, aa, baab, abaaba, ...}
B	{ ϵ, aa, bb, aaaa, bbbb, ...}
C	{ϵ, aa, abba, abbbba, abbbbbba...}
D	{ϵ, aa, abba, abaaba, ababbaba...}
Correct Ans: **D**	

Itemcode : **CP1076** **Q76:** The number of states in a minimal deterministic finite automaton corresponding to the language L = { a^n | n>3 } is	
A	3
B	4
C	5
D	6
Correct Ans: **C**	

Itemcode : **CP1077** **Q77:** Regular expression for the language L = { w∈ {0, 1}* | w has no pair of consecutive 0} is	
A	(1 + 010)*
B	(01 + 10)*
C	(1 + 010)* (0 + λ)
D	(1 + 01)* (0 + λ)
Correct Ans: **D**	

Itemcode : **CP1078** **Q78:** Consider the following two languages : L1 = {$a^n b^l a^k$ | n + *l* +k>5 } L2 = { $a^n b^l a^k$ |n>5, *l* >3, k≤ l } Which of the following is true ?	
A	Both L1 and L2 are regular languages.
B	Both L1 and L2 are not regular languages.

C	L1 is regular language and L2 is not regular language.
D	L1 is not regular language and L2 is regular language.
Correct Ans: **C**	

Itemcode : **CP1079**

Q79: Assume the statements S1 and S2 given as:

S1 : Given a context free grammar G, there exists an algorithm for determining whether L(G) is infinite.

S2 : There exists an algorithm to determine whether two context free grammars generate the same language.

Which of the following is true ?

A	S1 is correct and S2 is not correct.
B	Both S1 and S2 are correct.
C	Both S1 and S2 are not correct.
D	S1 is not correct and S2 is correct.
Correct Ans: **A**	

Itemcode : **CP1080**

Q80: The grammar with production rules

$S \rightarrow aSb \mid SS \mid \lambda$

generates language L given by :

A	$L = \{w \in \{a, b\}^* \mid n_a(w) = n_b(w)$ and $n_a(v) \geq n_b(v)$ where v is any prefix of w$\}$
B	$L = \{w \in \{a, b\}^* \mid n_a(w) = n_b(w)$ and $n_a(v) \leq n_b(w)$ where v is any prefix of w$\}$
C	$L = \{w \in \{a, b\}^* \mid n_a(w) \neq n_b(w)$ and $n_a(w) \geq n_b(w)$ where v is any prefix of w$\}$
D	$L = \{w \in \{a, b\}^* \mid n_a(w) \neq n_b(w)$ and $n_a(v) \leq n_b(w)$ where v is any prefix of w$\}$
Correct Ans: **A**	

Itemcode : **CP1081**

Q81: What growth rate was the economy of H.P. expected to achieve during 2017-18 financial year (in percentage terms)?

A	8.1
B	6.9
C	6.3
D	6.1
Correct Ans: **C**	

Itemcode : **CP1082**

Q82: Which Municipal Corporation in H.P. has been approved by the Government of India under Smart city Mission?

A	Nahan
B	Mandi
C	Hamirpur
D	Shimla

Correct Ans: **D**

Itemcode : **CP1083**

Q83: With whom is the famous folk song 'Thandi Thandi Hawa Chaldi, Chulde Chilan de dalu, Jeena Kangre da' associated?

A	Pratap Chand Sharma
B	Achhar Singh Parmar
C	Jawala Parsad
D	Shukla Sharma

Correct Ans: **A**

Itemcode : **CP1084**

Q84: Which country is collaborating with H.P. in projects like watershed and wadi projects?

A	Holland
B	Germany
C	Canada
D	France

Correct Ans: **B**

Itemcode : **CP1085**

Q85: According to 2010-11 agricultural census what is the percentage of marginal holdings in H.P.?

A	87.95
B	78.23
C	71.85
D	69.78

Correct Ans: **D**

Itemcode : **CP1086**

Q86: Which country is assisting in H.P. Forest Eco-systems climate proofing project?

A	Japan

B	Germany
C	Belgium
D	Canada
Correct Ans: **B**	

Itemcode : **CP1087**

Q87: Out of 14 silk yarn reeling units which have been set up in H.P. in the private sector, how many are in Kangra District?

A	4
B	5
C	6
D	7
Correct Ans: **B**	

Itemcode : **CP1088**

Q88: Approximately how much hydro power has been harnessed so far in H.P.?

A	10519.17 MW
B	11462.34 MW
C	12570.63 MW
D	16750.89 MW
Correct Ans: **A**	

Itemcode : **CP1089**

Q89: According to 2011 census what is the female literacy rate in H.P.?

A	70.63
B	73.85
C	75.93
D	77.46
Correct Ans: **C**	

Itemcode : **CP1090**

Q90: When was Dr. Rajendra Prasad Government Medical College at Tanda in Kangra District of H.P. established?

A	1990
B	1996
C	1998
D	1999
Correct Ans: **B**	

Itemcode : **CP1091**

Q91: How many seats did the Telangana Rashtra Samithi win in Telangana Assembly poll held in 2018?

A	77
B	82
C	85
D	88

Correct Ans: **D**

Itemcode : **CP1092**

Q92: How many gold medals has Mary Kom won in World Boxing Championships?

A	Three
B	Four
C	Five
D	Six

Correct Ans: **D**

Itemcode : **CP1093**

Q93: What is India's rank in 2018 Global Innovation Index?

A	57th
B	67th
C	77th
D	87th

Correct Ans: **A**

Itemcode : **CP1094**

Q94: When was Pradhan Mantri Mudra Yojna launched?

A	October, 2014
B	January, 2015
C	April, 2015
D	October, 2015

Correct Ans: **C**

Itemcode : **CP1095**

Q95: Find the mis-match between defence equipment and the functions they perform in India's defence?

A	Agni - Missile
B	Arjun - tank

C	Tejas - heliicopter
D	Arihant - submarine

Correct Ans: **C**

Itemcode : **CP1096**
Q96: Who is the President of Georgia?

A	Giorgi Magvelashvili
B	Salome Zurabishvili
C	Irakli Garibashvili
D	None of these

Correct Ans: **B**

Itemcode : **CP1097**
Q97: Among how many persons was 2018 Nobel Prize for Physics divided?

A	Two
B	Three
C	One
D	None

Correct Ans: **B**

Itemcode : **CP1098**
Q98: What name was given to the storm that shook Thailand in January, 2019?

A	Katrina
B	Titli
C	Pabuk
D	Mangkut

Correct Ans: **C**

Itemcode : **CP1099**
Q99: Who is the author of Sleep Donation?

A	Rebecca Mead
B	Karen Russell
C	Rachel Joyce
D	Ben Marcus

Correct Ans: **B**

Itemcode : **CP1100**
Q100: Where is the Headquarter of the European Union?

A	Geneva
B	Berlin
C	Rome
D	Brussels
Correct Ans: **D**	