RAMAKRISHNA MISSION VIDYAMANDIRA Belur Math, Howrah – 711 202 ADMISSION TEST – 2015 COMPUTER SCIENCE (Honours)

Da	te : 19-06-2015		Full Marks : 50	Time: 11.00 a.m – 12.00 noon		
		Instru	ctions for the candidate			
An. wre wo	swer all the questions given ong answer 1 mark will be rk.	a below. Tick (√) th deducted. Calculat	e correct option. Each corre or is not allowed. No additio	ct answer carries 2 marks. For every onal page will be provided for rough		
Na	me of the student :					
Ар	plication No. :					
C :	-					
518	gnature of the invigilator :					
1.	A man has certain number of small boxes to pack into parcels. If he packs 3,4,5 or 6 in a parcel, he is left with one; if he packs 7 in a parcel, none is left over. What is the number of boxes he may have to pack?					
	a) 301	b) 106	c) 309	d) 400		
2.	Find the union of the following sets: {x x=odd integer<15}					
	$\{x x - prime number < a \}$	b) $\{1, 15\}$	() 123579	$11 13$ d) $\{1357\}$		
2		0 $(1,13)$	(1,2,3,3,7,7)	$\{1,15\}$ $\{1,3,3,7\}$		
э.	How many permutations $x = 72$	$s \text{ or } \{a, b, c, d, e, 1, g\}$ b) 120	c) 48	d) None of these		
4		0) 120	C) 40			
4.	from 100 different peop	le who have entere	d a contest?	brize winner and a third prize winner		
	a) 1,00,200	b) 98,120	c) 99,700	d) 9,70,200		
5.	Evaluate: $\lim_{n \to \infty} x^n$ wh	en −1 <x<1.< td=""><td></td><td></td></x<1.<>				
	a) 0	b) $+\infty$	c) –∞	d) No limit exist		
6	Arrange the following it	ems from general t	to particular.			
0.	1 Animal 2 Feline	3 Leopard	4 Mammal 5 Vet	tebrate 6 Cat		
	a) 1.5.4.2.3.6	b) 1.4.3.2.5.6	c) 1.3.5.4.2.6	d) 1.2.3.4.6.5		
7	In the following series how many pairs of alternate numbers have a difference of 2?					
/.	Series: 641228742153862171413286					
	a) One	b) Two	c) Three	d) Four		
8	How many independent	words can 'DETE	RMINATION' be divided	into without changing the order of the		
0.	letters and using each letter only once?					
	a) 3	b) 1	c) 6	d) 2		
9.	If A+B means A is the son of B; A-B means A is the husband of B; A×B means A is the sister of B, then which of the following shows the relation Q is the maternal uncle of P?					
	a) P+B–R×Q	b) P–B+R×Q	c) P+B×R–Q	d) Cannot be determined		

10.	In a March Past, seven persons are standing in a row. Q is standing left to R but right to P. O is standing right to N and left to P. Similarly S is standing right to R and left to T. Find out who is standing in the middle.					
	a) P	b) Q	c) R	d) O		
11.	Let $f(x) = floor(x^3/3)$. Fin	d f(S) if S={-2,-1,0,1,2,3}				
	a) {1,3}	b) {0,3}	c) {0,1,3}	d) {0,1,2}		
12.	If 1 1 1 1=R, 2 2 2 2=T, 3 3 3 3=E, 4 4 4 4=N then 5 5 5 5=?					
	a) W	b) X	c) Y	d) Z		
13.	A speaks truth in 75% of the cases and B in 80% of the cases. In what percentage of cases are they likely to contradict each other in stating the same fact?					
	a) 15%	b) 20%	c) 5%	d) 35%		
14.	How many numbers great	ter than 0 and less than a mil	lion can be formed with the	digits 0, 7, 8?		
	a) 486	b) 1084	c) 728	d) None of these		
15.	If u, v is the weighted average and m is the natural number such that $u^m + v^m = w^m$, then which one of the following is true?					
	a) $m \ge \min(u, v, w)$	b) m \ge max(u, v, w)	c) m < min(u, v, w)	d) None of these		
16.	A dice is loaded in such a way that the probability of getting i on the dice is proportional to i. This dice is rolled three times. What is the probability of getting a product of 15?					
	a) 10/1029	b) 14/1029	c) 16/1029	d) 18/1029		
17.	. A test has 50 questions. A student scores 1 mark for a correct answer, $-1/3$ for a wrong answer and not attempting a question. If the net score of a student is 32, the number of questions answered wro that student cannot be less than					
	a) 6	b) 12	c) 3	d) 9		
18.	Let T be the set of integers {3, 11, 19, 27, 451, 459, 467} and S be a subset of T such that the sum of no two elements of S is 470. The maximum possible number of elements in S is					
	a) 32	b) 28	c) 29	d) 30		
19.	The 288 th term of the series	es a, b, b, c, c, c, d, d, d, d, e	, e, e, e, e is			
	a) u	b) v	c) w	d) x		
20.	What is the remainder when 4 ⁹⁶ is divided by 6?					
	a) 0	b) 2	c) 3	d) 4		
21.	The right most non-zero digits of the number 30 ²⁷²⁰ is					
	a) 1	b) 3	c) 7	d) 9		
22.	Let $f(x) = 1/(1-x)$, $g(x) = f(f(x))$ and $h(x)=f(f(f(x)))$, then the value of $f(x).g(x).h(x)$ is					
	a) 0	b) -1	c) –2	d) 2		
23.	We consider the relation "a person x shakes hand with a person y". Obviously, if x shakes hand with y, then y shakes hand with x. In a gathering of 99 persons, one of the following statements is always true, considering zero to be an even number. Which one is it?					
	a) There is at least one person who shakes hand exactly with an odd number of persons.					

- b) There is at least one person who shakes hand exactly with an even number of persons.
- c) There is even number of persons who shake hand exactly with an even number of persons
- d) None of these

24.	Let P, Q, R, S and T be statements such that if P is true then both Q and S are true, and if both R and S are
	true then T is false. We then have

- a) If T is true then both P and R must be true $% \left({{{\mathbf{F}}_{\mathbf{r}}}_{\mathbf{r}}} \right)$
- b) If T is true then both P and R must be false
- c) If T is true then at least one of P and R must be true
- d) If T is true then at least one of $\,P$ and R must be false

25. In the following series, find the missing number									
90, 180, 12, 50, 1	90, 180, 12, 50, 100, 200, ?, 3, 50, 4, 25, 2, 6, 30, 3								
a) 150	b) 175	c) 225	d) 250						
	×								

FOR ROUGH WORK