Q1). $x^{1/3} - x^{1/9} = 60$. find the value of X. (3 marks)

Ans : write $x^{1/3}$ as $x^{1/9}$. $x^{1/9}$. $x^{1/9}$

Now $x^{1/9}(x^{2/9} - 1) = 60$

Now use trial and error method. Then $x = 4^9$

Q2). There are A, B, C, D, E, F students they speak one are more than one of english, itali, french, Spanish, portueges;

B, C speak English. But after D joins they have Spanish as the common language

Spanish is most common language

A, B, E have French as common language

C, E has Italian as common language

3 speak portueges

Out of all 1=all speaks 5 Langs, 1= speaks 4 Langs, 1= speaks 3

Langs, 1= speaks 2 Langs,1= speaks 1 language? (8 marks)

then 4 questions were asked based on above data like

1) A knows which languages? 4 options were given (one can easily get the answer from the above data and given options)

2) B knows how many languages

a) English, French

b)English, French Spanish

c)English, French, Spanish Italian

d)English, French, Spanish, Italian,Portugese

3) C can't speak which language (4 options were given)

4) E can speak which languages (4 options were given)

Q3) same old cubes problem   (8 marks)

A cube has its 6 faces painted red. It is cut by 6 straight lines into 27 smaller cubes.

Find how many smaller cubes are there having:

    (i) 3 faces painted red. (ans : 8)

    (ii) 2faces painted red. (ans : 12)

    (iii) 1 face painted red. (ans : 6)

    (iv) 0 faces painted red (ans :1)

Q4) There was a cycle race going on. 1/5th of the those in front of a person and 5/6th of those behind him gives the total number of participants. How many people took part in the race? (3 marks)   Ans : 31   (5 marks)

Approach:

Let the total number of participants be X

So, [(x-1)/5 + 5(x-1)/6] = X

Q5) A man starts from XYZ city and drives a constant speed. After some time he sees a milestone with two digits written on it. after he drives for an hour, he sees another milestone with the same digits, but in reversed order. After another hour of journey, he sees another milestone with original digits but with a zero between them.

What was the speed of his car if milestones show kilometers? (6 marks)

Ans) 45 kmph

Let speed of car be x kmph

Let at first he sees digits as 'ab'…that is the value of number is: 10a+b

After traveling for one hour, he sees the number as 'ba'…thus its value is 10b+a

After traveling another hour,he sees the number as 'a0b'…thus value is 100a+b

Now,

10a+b+x=10b+a..which gives x=9b-9a

10b+a+x=100a+b..which gives x=99a-9b

Equating we get,

b=6a

since 'a' and 'b' are digits, a=1 and b=6 and thus x=45

Q6). Uncle Reuben and Aunt Cynthia came to town for shopping. Reuben bought a suit and hat for $15. Cynthia paid as much as for her hat as Reuben did for his suit then she spent the rest of their money for a new dress.

On the way home Cynthia called Reuben's attention to the fact that his hat cost $1 more than her dress, then she added "if we had divided our hat money differently so that we bought different hats mine costing 1 and 1/2 time cost of yours" then we each would have spent the same amount of money.

In that case Uncle Reuben asked "how much would my hat have cost"   (6 marks)

Ans). Uncles hat costs $9 (total money was $29)(not sure)check it

Q7). A five digit no whose third digit is one greater than the sum of the first two digits, and the third digit is double the fourth digit ,and fourth digit is double the fifth digit, and second digit is greater than first digit by 5. and if we multiply fourth and fifth digit we get third digit.

                                                                                    (5 marks)

 Ans)   16842   take the no as "abcde" work it out using the given conditions (very easy)

Q8)ferie younger than jack and older than louise, louise older than edward and younger than jim (some names r given in that order) Who is youngest person?

 U can easily solve this one by examining the conditions   (3 marks)

Ans) EDWARD very simple we have 2 club all conditions around 6, then we will get youngest person

Q9) ona sacle of 100:   (3 marks)

   85 are married, 80 have cars, 75 have phones, and 70 have houses. How many minimum persons are married, have phone, car and houses on a scale of 100.

     Ans) 15 (not sure check it out)

Q10) There are 100 teams for a cricket tournament. It's a knockout tournament .The team which

     looses once will be out. How many matches are required to choose the winner?

Ans) 99