LOGICAL REASONING

WORD GROUP CATEGORIZATION QUESTIONS

1. Ans: [a]
The meaningful order is 1, 3, 5, 4, 2

2. Ans: [a]
The logical sequence is measure, mark, cut, stitch, put on – 4, 3, 1, 5, 2.

3. Ans: [c]
The order will be, Insect, Duck, Dog, Deer, Lion – 4, 3, 2, 5, 1

4. Ans: [d]
The order will be,
Key, Lock, Door, Room, Light-on – 1, 3, 2, 4, 5

5. Ans: [a]
The logical order is Plant, Cotton, Yarn, Stitching and Dress.
5, 3, 2, 4, 1

6. Ans: [a]
The logical sequence is 13452.

7. Ans: [b]
The logical sequence is 3, 1, 5, 2, 4.

8. Ans: [a]
Logically the correct and meaningful order is 5, 6, 2, 3, 4, 1. From posting advertisement to having a probation period for the newly joined employee.

9. Ans: [a]
The correct logical sequence is that the Child is Hungry, so it Cried thereby the Mother gave the child Food to eat.
Thus, the answer is 5, 4, 1, 2, 3.

10. Ans: [c]
The given words clearly represent the various parts of a hand which may be arranged.
(i) From top to bottom – Shoulder, Elbow, Wrist, Palm, Finger – with number sequence as 1, 2, 5, 3, 4 or from bottom to top – Finger, Palm, Wrist, Elbow, Shoulder – with number sequence as 4, 3, 5, 2, 1.
Here, option (c) gives the sequence from top to bottom.

11. Ans: [b]
A group of words makes a phrase. A group of phrases makes a sentence and a group of sentences makes a para. Thus the correct sequence is 2, 1, 3, 4.

12. Ans: [d]
The sequence Birth-Death cycle is – Birth, Education, Marriage, Death, Funeral – i.e., 1, 2, 4, 5, 3.

13. Ans: [b]
The sequence of construction is – Foundation, Walls, Windows, Roof, Floor, Room. The order, therefore, is 4, 2, 1, 5, 3, 6.

14. Ans: [c]
Solution
The sequence of division of land in increasing order is Village, District, State, Country, Continent. Hence, the order 4, 2, 3, 1, 5.

15. Ans: [c]
The sequence for a plant to yield fruits is – Seed, Plant, Flower, Fruit. Hence, the order 3, 1, 4, 2.

16. Ans: [c]
The sequence of one preying on the other is Grass, Grasshopper, Frog, Snake, Eagle – hence, the order 5, 3, 1, 4, 2.

17. Ans: [b]
The sequence of period of age as per advancement of Science is Stone Age, Metallic Age, Alloy Age, Atomic Age. Hence, the order 3, 2, 4, 1.

18. Ans: [d]
3, 2, 5, 4, 1

19. Ans: [b]
3, 2, 1, 5, 4

20. Ans: [c]
All the given words stand for 'Joy', but the intensity increases in the order - Ambivalence, Happiness, Pleasure, Euphoria, Ecstasy.
Thus the correct order is 3, 2, 5, 1, 4.

21. Ans: [c]
4, 3, 1, 2, 5

22. Ans: [c]
The Correct Sequence is

Plant	Grain	Dough	Bread	Sandwich
2	1	5	4	3

23. Ans: [d]
5, 3, 2, 4, 1

24. Ans: [b]
3, 4, 1, 5, 2

25. Ans: [d]
2, 4, 5, 1, 3

26. Ans: [d]
3, 5, 4, 1, 2

27. Ans: [c]
4, 2, 1, 3, 5

28. Ans: [c]
1, 2, 4, 3, 5

29. Ans: [c]
2, 4, 1, 3, 5

30. Ans: [b]
5, 1, 3, 2, 4

WORD GROUP CATEGORIZATION QUESTIONS

1. Ans: [e]
All except Morbid are synonyms of 'deceit'.

2. Ans: [a]
All except Feathers are organs for movement in different organisms.

3. Ans: [c]
All except Banyan are coniferous trees.

4. Ans: [e]
All except Condensation are methods employed for separation of mixtures.

5. Ans: [b]
All except typhoid are deficiency diseases.

6. Ans: [c]
All except Astrology are branches of biology.

7. Ans: [d]
All except Ayurveda are names of holy scriptures, the four Vedas. Ayurveda is a branch of medicine.

8. Ans: [a]
All except Potassium are metals used in semiconductor devices.

9. Ans: [c]
All except Scallop live in shells.

10. Ans: [b]
All except Quay are parts of a ship.

11. Ans: [d]
All except Locust are reptiles, while locust is an insect.

12. Ans: [b]
All except Gazelle are animals found in the mountains.

13. Ans: [a]
All except Record are the brief notations in a language, while record is a detailed account.

14. Ans: [c]
All except Simmer are connected with light, while simmer is a way of cooking.

15. Ans: [d]
All except Rhetoric are terms associated with poetry.

16. Ans: [e]
All except Pinna are bones, while pinna is the external part of an ear.

17. Ans: [b]
All except Methane are products obtained from petroleum.

18. Ans: [b]
All except Change are synonyms.

19. Ans: [b]
All except Bars are structures formed by rivers, while bars are formed by sea.

20. Ans: [a]
All except Hydrazine are pesticides, while Hydrazine is a rocket fuel.

21. Ans: [c]
All except Trypsin are chemical names of vitamins, while trypsin is an enzyme.

22. Ans: [e]
All except Ebony are coniferous trees, while ebony is an evergreen tree.

23. Ans: [b]
All except Cretinism are deficiency diseases, while Cretinism is a hormonal disease.

24. Ans: [a]
All except Sandstone are igneous rocks formed by cooling down of magma, while sandstone is a sedimentary rock.

25. Ans: [b]
All except Bevin were the Prime Ministers of UK, while Bevin was the Foreign Secretary of UK.

26. Ans: [b]
All except Ostrich are water birds.

27. Ans: [d]
All except Moraines are structures formed by the sea, while moraines are formed by glaciers.

28. Ans: [d]
All except Tetanus are diseases which are transmitted by insects or mosquitoes.

29. Ans: [a]
All except Colt are names of places where animals stay.

30. Ans: [c]
All except Tolstoy are poets, while Tolstoy is a story-writer.

CRYPTARITHMETIC

1. Ans: [b]

BASIC	60852
+ LOGIC	+47352
PASCAL	108204

2. Ans: [a]

CELLO	96335
+ HORN	+ 8527
ZITHER	104862

3. Ans: [c]

CRASH	67230
+ ERROR	+ 87757
FOLDER	154987

4. Ans: [a]

SATURN	613847
+ TITAN	+ 30317
TRITON	340357
EUROPA	984521

5. Ans: [c]

HOW	152
x WE	x27
HAIL	1064
PAL	304
LHAL	4104

6. Ans: [a]

APT	435
x TO	x 56
MOVE	2610
MVDT	2175
MAPOE	24360

7. Ans: [d]

8. Ans: [a]

ASK	985
x TO	x 76
KARL	5910
OSAK	6895
TYSOL	74860

9. Ans: [d]

AID	795
x AD	x 75
RIAD	3975
DDCD	5565
DICED	59625

10. Ans: [c]

STOP	9284
PAST	4392
POST	4892

11. Ans: [b]

One technique that comes in handy for cryptarithmetic problems which involves subtraction is realizing that subtraction is "upside-down" addition. Or else, you can write "5 – 3 = 2" as ""2 + 3 = 5".

So the question

```
 C O U N T
 – C O I N
-------------------
   S N U B
```

can be re-framed as

```
   S N U B
 + C O I N
-----------------
C O U N T
```

Assume the columns are numbered from left to right.

1. From column 5, **C = 1** since it is the only carry-over possible from the sum of two single digit numbers in column 4 with or without carry over from column 3. Let's use some digits so that I can drive home this point without tying you in knots. Assume N and O from column 4 to have values 9 (it is impossible because no two letters should have the same digits as per the steadfast rule that I mentioned in the beginning; but still I picked 9 because sum of two single digits would be maximum if both the single digits are maximum. And maximum possible value of single digit is 9.) So sum from column 4 would be 18. Even if there is a carryover from column 3, the sum would be 18 + 1 = 19. So maximum carry over from column 4 would be 1. Hence the conclusion that C = 1.

2. Now we know C cannot be anything else other than 1. Column 4 has two possibilities which can be expressed as "S + 1 = 10 + O" (if there is no c.o. from column 3) or "c.o. + S + 1 = 10 + O" (if there is a c.o. from column 3) where c.o. indicates carry over. From the two expressions we have "S – O = 9" or "S – O = 9 – c.o.". As explained in the first point, c.o. from addition of two single digit numbers cannot be more than 1. So second expression becomes "S – O = 8". Let's substitute O = 1 in both the expressions. You don't need to fume your head to know that only second expression can be satisfied with this assumption. But we need a value of O that satisfies both the expressions. Or else the assumption is wrong. If you substitute value of O anything from 2 till 9, it wouldn't satisfy either of the two equations. So the only possible value of O is 0. So we can conclude **O = 0** i.e. in other words O must be less than M.

3. Now that we know O is 0, S can be either 8 or 9 depending of whether there is a c.o. from column 3. But if there were a c.o. from column 3, U would be less than O (similar to conclusion from point 2). This is impossible since O = 0. Therefore there is no c.o. from column 3 and **S = 9**.

4. If there is no c.o. from column 2 then N = U since O = 0. This is not possible. Therefore there is a c.o. and N + 1 = U. If there was a c.o. from column 1, then (U + I) mod 10 = N, and U = N + 1. So (N + 1 + I) mod 10 = N which means (1 + I) mod 10 = 0, so I = 9. But S = 9. So there must be a c.o. from column 1 and **I = 8**.

5. To have a c.o. from column 1, we must have B + N = 10 + T. T is at least 2 because 0 and 1 are taken. So B + N = 12. The only two pairs of available numbers that sum to at least 12 is (5, 7) and (6, 7). So either B = 7 or N = 7. Since U = N + 1, N can't be 7 because then U = 8 which is impossible. So **B = 7**.

6. N can't be 6 because then U = 7 which again is impossible. So **N = 5** and **U = 6**.

B + N = 12 so **T = 2**.

SNUB = 9567

12. Ans: [a]

To facilitate the analysis, let's break it down its basic components. i.e., 2 multiplications and 2 subtractions.

I. K × A K A = D Y N A

II. M × A K A = A R K A

III. D A D D

D Y N A (–)

A R M

IV. A R M Y

A R K A (–)

R A

Consider the 1st multiplication AKA × K = DYNA, where A × K = unit digit (A) and A can be 0 or 5. As the product DYNA is greater than the divisor AKA. A must be 5.

Substituting the value of A in 4th condition, we will get

5 R M Y

5 R K 5 (–)

R 5

Y – 5 = 0

Y must be 0.

Consider the 1st multiplication, 5 K 5 × K = D 0 N 5.

The remaining possible digits are 1, 2, 3, 4, 6, 7, 8, and 9.

By trial and error we get the DYNA as 4025.

13. Ans: [d]

From the question, it could be seen that N E T × K = N E T. K must be 1.

```
      1T
NET | LIN1
      NET
    ------
      1E11
      1TEC
    ------
      1EY
```

It can be seen from the last step that E can take only 5 because to subtract C from 1 it took one point from the previous number. So the next value becomes 10 – E = E.

The next step will be

```
      1T
N5T | LIN1
      N5T
    ------
      1511
      1T5C
    ------
      15Y
```

It can be seen from the last step that 4 – T = 1. So T = 3.

As T × T = C, C must be 9.

The next step will be

```
      13
N53 | LIN1
      N53
    ------
      1511
      135C
    ------
      159
```

From the above division,

N – 3 = 1, so N must be 4

I – 5 = 5, so I must be 0

(L-1) – 4 = 1, L must be 6

L I N K = 6041.

14. Ans: [c]

From the given subtraction is could be easily find that A can take only the number 1.

```
 1PPLE
  TH1T
 -----
  E1T
```

As L – 1 – 1 = 1, L must be 3.

```
 1PP3E
  TH1T
 -----
  E1T
```

By checking the possibility, T must be a bigger number and E received 10 points from 3 to subtract T.

Also we have 10 + (P – 1) – T = 0

9 + P = T

By trial and error, P must be 0 and T must be 9. Then E = 8

APPLE = 10038

15. Ans: [c]

```
 EYE * MAT
 ---------
    SYIA
  GMTA+
 AIRY+ +
 ---------
 AASMAA
```

Follow the steps to solve the above puzzle:
Step 1: Look for '0' or '1' in the Multiplier (M A T), we do not find one.

Step 2: Now, look at the product term of E Y E * _ A_ = G M T A. If you have gone through the previous post, you will guess that 'E' is either 1 or 6. Since it is not 1, it should be 6. And 'A' should be an even number and hence it should be 2,4,8. Considering 'A' as 2 and rewriting the multiplication we get,

6 Y 6 * M 2 T

S Y I 2
G M T 2 +
2 I R Y + +
---
2 2 S M 2 2

Step 3: Now looking at the sum in the 2nd column form the right i.e. 'I + 2 = 2', we can conclude that 'I' = 0, since there is no carry. Rewriting it would yield us,

6 Y 6 * M 2 T

S Y 0 2
G M T 2 +
2 0 R Y + +
---
2 2 S M 2 2

Step 4: Further, looking at the sum in the 2nd column form the left i.e. 'G + 0 = 2', we can conclude that 'G' is either 1 or 0, since we already have 'I' = 0, 'G' has to be 1. Rewriting it we would have,

6 Y 6 * M 2 T

S Y 0 2
1 M T 2 +
2 0 R Y + +
---
2 2 S M 2 2

Step 5: Now looking at the product 6 Y 6 * M = 2 0 R Y, we can conclude that 'M' = 3. since (6 * M + carry) = 20, and the only value that seems to satisfy that equation is 3. Rewriting this would yield us,

6 Y 6 * 3 2 T

S Y 0 2
1 3 T 2 +
2 0 R Y + +
---
2 2 S 3 2 2

Step 6: If we look at the product term 6 Y 6 * 3 = 2 0 R Y, we can easily figure out 'Y' to be 8, so rewriting the puzzle would give us,

6 8 6 * 3 2 T

S 8 0 2
1 3 T 2 +
2 0 R 8 + +
---
2 2 S 3 2 2

Step 7: Now, the sum term 8 + T + 8 = 3 helps us to find out the value of 'T', yeah it is 7. How? Well there is no carry and the sum has to be 23, since no number is greater than 9 (You could also find out the value of 'T' from the product 686*2 as well.) We will get

6 8 6 * 3 2 7

S 8 0 2
1 3 7 2 +
2 0 R 8 + +
---
2 2 S 3 2 2

Step 8: This step is just a formality, since we got to know the values of the Multiplicand and the multiplier, it is a piece of cake to find out the rest of the values. And they happen to be,

6 8 6 * 3 2 7
---
4 8 0 2
1 3 7 2 +
2 0 5 8 + +
---
2 2 4 3 2 2

16. Ans: [a]

This is a tough question as there are total 9 different alphabets are used.

Step 1: K + A = A. So K = 0

Step 2: From the hundreds column, 2B + A = 10 or 20. As 2B, 10, 20 are even, A should be even. Remember this logic.

Possibilities are, for A and B are (2, 4), (4, 3), (6, 2), (8, 1) and (2, 9), (4, 8), (6, 7), (8, 6)

In the second row of multiplication, we have PAS x B = ASAA.

P2S x 4 = 2S22 ⇒S = 3, 8 But both are not satisfying.

P4S x 3 = 4S44 ⇒S = 8. But P48 x 3 = 4844 is not possible. Ruled out.

P6S x 2 = 6S66 ⇒S = 3, 8. But both are not satisfying. Ruled out.

P2S x 9 = 2S22 ⇒S = 8 But P28 x 9 = 2822 is not possible. Ruled out.

P4S x 8 = 4S44 ⇒S = 3. This is possible as P43 x 8 = 4344 then P = 5.

P6S x 7 = 6S66 ⇒S = 8 But P68 x 7 = 6866 is not possible. Ruled out.

P8S x 6 = 8S88 ⇒S = 3, 8 But both are not satisfying. Ruled out.

Therefore, S = 3, P = 5, A = 4, B = 8.

			5	4	3
			R	8	Q
		3	8	0	W
	4	3	4	4	
S	E	5	8		
3	**Q**	**3**	**0**	**4**	**W**

From the above diagram, R = 6 and E = 2. and A = 7 and W = 1.

Final form of the solution is:

			5	4	3
			6	8	7
		3	8	0	1
	4	3	4	4	
S	2	5	8		
3	**7**	**3**	**0**	**4**	**1**

17. Ans: [b]

			1	7
			7	1
			1	7
	1	1	9	
	1	**2**	**0**	**7**

From the first row of multiplication, H =1 is clear.

As HE x H = HE, substitute H = 1 in all places.

Now from the tenth's place, think about, the value of A. 1 + A = M.

If M is a single digit number, then N = 1, which is impossible (Already we have given H = 1).

So A = 9, then M = 0, and N = 2.

Now 1E x E = 119.

So by trial and error E = 7.

Therefore, NAME = 2907

18. Ans : [c]

```
  SEND
+ MORE
-------
 MONEY
-------
```

we have to go for trial and error method, if we add two numbers, the maximum carry over will be 1 for eg 9 + 9 = 18, so m denotes 1, so we can eliminate one option, so 1 + s = o means s should 9 then only carry over will come, so o denotes 0, then from the option if we take e = 5 it satisfies the given condition

```
  9567
+1085
---------
10652
---------
```

19. Ans: [b]

```
  ABC
  ×DE
-----------
  FEC
 DEC
------------
 HGBC
------------
```

from the all answer option last digit ends with 0 or 5,if we check for E = 0 ABC × 0 = FBC, so resultant will be DE00,so we eliminate three options ends with 0,remaining is the answer

20. Ans: [a]

```
  NO
+ GUN
  NO
---------
 HUNT
---------
```

we have to go for trial and error method, if we add two numbers, the maximum carry over will be 1 for eg 9+9=18,so m denotes 1,so we can eliminate two options, by checking remaining two options answer is option A

```
  87
+ 908
  87
-------
 1082
-------
```

DATA ARRANGEMENT

Solutions for Q1 to Q5: D is to the left of F and second to the right of C i.e. C – D F.

A is second to the right of E i.e. E – A.

J is immediate neighbor of A and B and third to the left of G i.e. A J B – G.

H is to the left of D and third to the right of I i.e. I – H D.

The above four details may be combined to obtain the correct sitting order as under:

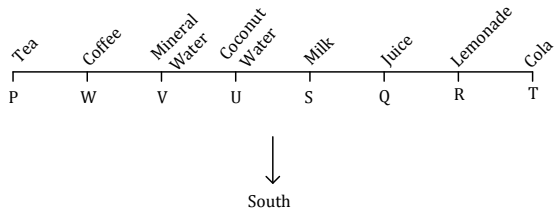
Teacher

↑

E, K, A, J, B, I, G, C, H, D, F

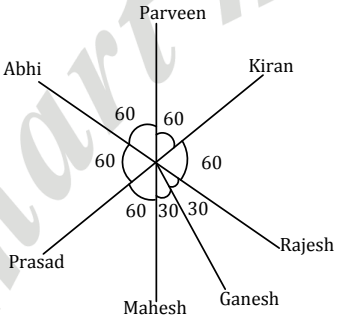
1. Ans: [c]
2. Ans: [c]
3. Ans: [b]
4. Ans: [d]
5. Ans: [b]

Solutions for Q6 to Q10: As per details given, the seating arrangement will be as follows along with their beverages.



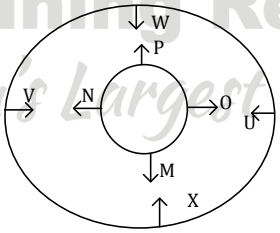
6. Ans: [b]
7. Ans: [a]
8. Ans: [b]
9. Ans: [a]
10. Ans: [a]

Solutions for Q11 to Q15:



11. Ans: [c]
12. Ans: [d]
13. Ans: [d]
14. Ans: [a]
15. Ans: [d]

Solutions for Q16 to Q20

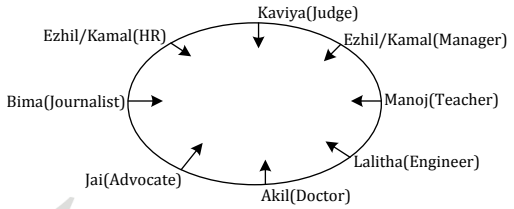


M – Green, N – Yellow, O – White, P – Orange

U – Blue, V – Black, W – Red, X – Purple

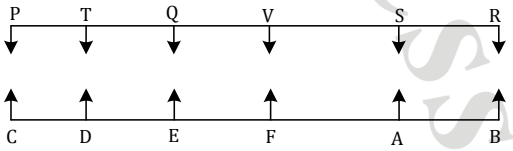
16. Ans: [c]
17. Ans: [b]
18. Ans: [a]
19. Ans: [a]
20. Ans: [b]

Solutions for Q21 to Q25: From the details given, the sitting arrangement of the eight persons and their professions will be as follows.



21. Ans: [b]
22. Ans: [d]
23. Ans: [d]
24. Ans: [d]
25. Ans: [a]

Directions for Q26 to Q30: From the details given, the seating arrangement will be as follows.



26. Ans: [d]
27. Ans: [b]
28. Ans: [c]
29. Ans: [a]
30. Ans: [d]

Solution for Q31 to Q33:

Men: A, B, C, Women: D, E, F Things to be kept in mind: Men and Women will alternate, E < C, A< F.

Step 1: As they meet at D's coffee house on Monday, E's and F's coffee house will be used on Wednesday and Friday as male & female in alternate days.

Step 2: Since F's coffee house must be used later in the week than A's, F's coffee house cannot be used on Wednesday as Monday and Tuesday are already booked and A cannot be slotted in there. So F's coffee house is used on Friday and E's on Wednesday.

Step 3: Since A's coffee house is used before F's, it has to be used on Thursday and this means C's coffee house is used on Saturday.

The schedule thus becomes:

Monday: D

Tuesday: B

Wednesday: E

Thursday: A

Friday: F

Saturday: C

31. Ans: [d]

32. Ans: [a]

33. Ans: [b]

Solution for Q34 to Q37:

From the given information, we can make a table for this.

1. From 7, the football player lives in the second flat and he is a design engineer.
2. From 6 and 2, the chess player and cricketer lives in the third flat.
3. From 7, Amit is a chess player and a power engineer.
4. From 6, Tarun is Quality Inspector.
5. As both the cricketers are left (and we have not decided their professions), according to statement three, they both are Mechanical Engineers.
6. From 6, Manu and Ambrish are cricketers (regional and national respectively).
7. Lastly, one name of Football player and one game name which is played by Tarun is left.

From the information above, the football player's name has to be Rohit and tennis is played by Tarun (these were the only pieces of information missing).

Name	Game	Flat number	Profession
Tarun	Tennis	5	Quality Inspector
Ambrish	Cricket(National)	4	Mechanical Eng.
Amit	Chess	3	Power Eng.
Manu	Cricket(Regional)	3	M.E
Rohit	Football	2	Design Eng.

34. Ans: [a]

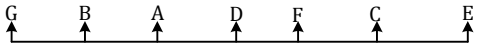
35. Ans: [d]

36. Ans: [c]

37. Ans: [c]

Solution for Q38 to Q40:

The following will be the arrangement from the given data. The answer can be inferred from the same.



38. Ans: [a]

39. Ans: [d]

40. Ans: [c]

BLOOD RELATIONS

1. Ans: [d]

Q x R = Q is the mother of R [– Q, ± R]

R $ P = R is the brother of P [+ R, ± P]

P $ N = P is the brother of N [+ P, ± N]

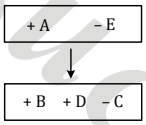
Therefore P is the son of Q.

Note:

'–' denotes female; '+'denotes male.

2. Ans: [a]

With the chart



Therefore, D is a boy because there is only one daughter of E. Hence B is the brother of D.

Note:

'–' denotes female; '+'denotes male.

3. Ans: [b]
   1. Grandmother of younger sister of Rekha → Grandmother of Rekha
   2. Wife of only son of grandmother → Mother of Rekha
   3. Younger daughter of the mother → Younger sister

4. Ans: [a]

The woman in the photograph is Arun's Brother's Daughter-in-law.

Because son's wife's daughter is daughter-in-law to his brother.

So Arun must be uncle.

5. Ans: [d]

The boy in the photograph is the only son of the son of Suresh's mother i.e., the son of Suresh.

Hence, Suresh is the father of boy.

6. Ans: [a]

The man in the photograph is the son of the only son of Lata's grandfather i.e., the man is the son of Lata's father. Hence, the man is the brother of Lata.

7. Ans: [d]

The man in the photo is the son of the sister of Bajpai. Hence, Bajpai is the maternal uncle of the man in the photograph.

8. Ans: [b]
'The only daughter of the father of X's mother' means mother of X.
Hence X is the son of the lady in the photograph.

9. Ans: [c]
P – M → P is the brother of M
M + N → M is the mother of N
N x Q → N is the sister of Q
Therefore, P is the maternal uncle of Q.

10. Ans: [d]
If D is Male, the answer is Nephew.
If D is Female, the answer is Niece.
As the sex of D is not known, hence, the relation between D and A cannot be determined.

11. Ans: [d]
M x N → M is the father of N
N – C → N is the sister of C
and C + F → C is the brother of F.
Hence, M is the father of C or C is the son of M.

12. Ans: [a]
The father of the boy's uncle → the grandfather of the boy
Daughter of the grandfather →sister of father

13. Ans: [d]
Given: D is the brother of B.
From statement 1, we can detect that D is son of C (son of D is the grandson of C).
From statement 2, we can detect that B is 'Female' (sister of D).
Therefore, B is daughter of C.

14. Ans: [a]
Self explanatory

15. Ans: [b]
P x Q → P is the wife of Q
Q % R → is the father of R
R - T → R is the brother of T
T + S → T is the sister of S.
Therefore, T is the daughter of P.

16. Ans: [d]
Daughter of Abhijit's brother → niece of Abhijit. Thus the granddaughter of the woman is Abhijit's niece.
Hence, the woman is the mother of Abhijit.

17. Ans: [d]
The girl is the wife of grandson of Amit's mother i.e., the girl is the wife of son of Amit. Hence, Amit is the father-in-law of the girl.

18. Ans: [b]
A and B are children of D.
From (1), C is the brother B and son of E.
Since, the sex of D and E are not known.
Hence (1) is not sufficient to answer the question.
From (2). F is the mother of B. Hence, F is also the mother of A. Hence D is the father of A.
Thus, (2) is sufficient to answer the question.

19. Ans: [a]
Only daughter of my mother → myself.
Hence, the woman is the mother of the man.

20. Ans: [a]
A is the mother of B, B is the brother of C and C is the daughter of D. Hence, D is the father.
A (Parents) D
| |
| |
B – is – Brother – of – C