6. PUZZLE TEST

This section comprises of questions put in the form of puzzles involving certain number of items, be it persons or things. The candidate is required to analyse the given information, condense it in a suitable form and answer the questions asked.

The questions on Puzzle Test may be of any of the following types :

I. Classification Type Questions
II. Seating/Placing Arrangements
III. Comparison Type Questions
IV. Sequential order of things
V. Selection based on given conditions
VI. Questions involving family members — their relationship, their professions, their preferences etc.
VII. Jumbled up Problems

TYPE 1 : CLASSIFICATION TYPE QUESTIONS

This type consists of questions in which certain items belonging to different groups or possessing different qualities are given along with some clues with the help of which the candidate is required to group and analyse the given items and answer the questions accordingly.

Ex. 1. Read the following information carefully and answer the questions that follow :

There are six cities A, B, C, D, E and F.

A is not a hill station.

B and E are not historical places.

D is not an industrial city.

A and D are not historical cities.

A and B are not alike.

1. Which two cities are industrial centres ?

(*a*) A and B (*b*) E and F (*c*) C and D (*d*) B and F (*e*) A and D

2. Which two cities are historical places ?

(*a*) A and C (*b*) B and F (*c*) C and F (*d*) B and E (*e*) A and D

3. Which two cities are hill stations ?

(*a*) A and B (*b*) C and A (*c*) B and D (*d*) A and F (*e*) None of these

4. Which city is a hill station and an industrial centre but not a historical place ?

(*a*) E (*b*) F (*c*) A (*d*) B (*e*) C

5. Which two cities are neither historical places nor industrial centres ?

(*a*) A and B (*b*) D and E (*c*) F and C (*d*) B and D (*e*) None of these

Solution : The given information can be analysed as follows :

	A	B	C	D	E	F
Historical	×	×	√	×	×	√
Industrial	√	×	√	×	√	√
Hill Stations	×	√	√	√	√	√

Since A and B are not alike and because A is industrial, B cannot be industrial but only a hill station. So, we put a cross for B across Industrial.

1. Clearly, A, C, E and F are Industrial Centres. So, the answer is (*b*).
2. Clearly, C and F are Historical places. So, the answer is (*c*).
3. Clearly, B, C, D, E and F are Hill stations. So, the answer is (*c*).
4. E alone is a Hill station and an Industrial centre but not a Historical place. So, the answer is (*a*).
5. B and D are neither Historical places nor Industrial centres. So, the answer is (*d*).

Ex. 2. Read the following information carefully and answer the questions that follow :

(*i*) Five friends P, Q, R, S and T travelled to five different cities of Chennai, Calcutta, Delhi, Bangalore and Hyderabad by five different modes of transport of Bus, Train, Aeroplane, Car and Boat from Mumbai.

(*ii*) The person who travelled to Delhi did not travel by boat.

(*iii*) R went to Bangalore by car and Q went to Calcutta by aeroplane.

(*iv*) S travelled by boat whereas T travelled by train.

(*v*) Mumbai is not connected by bus to Delhi and Chennai. **(Bank P.O. 1995)**

1. Which of the following combinations of person and mode is not correct ?

(*a*) P — Bus (*b*) Q — Aeroplane (*c*) R — Car
(*d*) S — Boat (*e*) T — Aeroplane

2. Which of the following combinations is true for S ?

(*a*) Delhi — Bus (*b*) Chennai — Bus (*c*) Chennai — Boat
(*d*) Data inadequate (*e*) None of these

3. Which of the following combinations of place and mode is not correct ?

(*a*) Delhi — Bus (*b*) Calcutta — Aeroplane (*c*) Bangalore — Car
(*d*) Chennai + Boat (*e*) Hyderabad — Bus

4. The person travelling to Delhi went by which of the following modes ?

(*a*) Bus (*b*) Train (*c*) Aeroplane (*d*) Car (*e*) Boat

5. Who among the following travelled to Delhi ?

(*a*) R (*b*) S (*c*) T (*d*) Data inadequate (*e*) None of these

---

Solution : The given information can be analysed as follows :

(A) **Mode of Transport :** R travels by Car, Q by Aeroplane, S by Boat and T by Train. Now, only P remains. So, P travels by Bus.

(B) **Place of Travel :** R goes to Bangalore, Q to Calcutta. Now, bus transport is not available for Delhi or Chennai. So, P who travels by Bus goes to Hyderabad. S travels by boat and hence, by (*ii*), did not go to Delhi. So, S goes to Chennai. Now, only T remains. So, T goes to Delhi.

	Place	Mode
P	Hyderabad	Bus
Q	Calcutta	Aeroplane
R	Bangalore	Car
S	Chennai	Boat
T	Delhi	Train

1. Clearly, the incorrect combination is T — Aeroplane. So, the answer is (*e*).
2. Clearly, the correct combination for S is Chennai — Boat. So, the answer is (*c*).
3. Clearly, the incorrect combination is Delhi — Bus. So, the answer is (*a*).
4. Clearly, T travelled to Delhi by Train. So, the answer is (*b*).
5. Clearly, T travelled to Delhi. So, the answer is (*c*).

EXERCISE 6A

Directions (*Questions 1 to 5*) : *Read the following information and answer the questions based on it :* **(Bank P.O. 1996)**

In a school, there were five teachers. A and B were teaching Hindi and English. C and B were teaching English and Geography. D and A were teaching Mathematics and Hindi. E and B were teaching History and French.

1. Who among the teachers was teaching maximum number of subjects ?
   (*a*) A (*b*) B (*c*) C (*d*) D (*e*) E
2. Which of the following pairs was teaching both Geography and Hindi ?
   (*a*) A and B (*b*) B and C (*c*) C and A (*d*) D and B (*e*) None of these
3. More than two teachers were teaching which subject ?
   (*a*) History (*b*) Hindi (*c*) French (*d*) Geography (*e*) Mathematics
4. D, B and A were teaching which of the following subjects ?
   (*a*) English only (*b*) Hindi and English (*c*) Hindi only
   (*d*) English and Geography (*e*) Mathematics and Hindi
5. Who among the teachers was teaching less than two subjects ?
   (*a*) A (*b*) B (*c*) D (*d*) Data inadequate (*e*) There is no such teacher

Directions (*Questions 6 to 10*) : *Study the following information carefully and answer the questions that follow :* **(M.B.A. 1997)**

Madhu and Shobha are good in Dramatics and Computer Science.
Anjali and Madhu are good in Computer Science and Physics.
Anjali, Poonam and Nisha are good in Physics and History.
Nisha and Anjali are good in Physics and Mathematics.
Poonam and Shobha are good in History and Dramatics.

6. Who is good in Computer Science, History and Dramatics ?
   (*a*) Anjali (*b*) Madhu (*c*) Shobha (*d*) Nisha
7. Who is good in Physics, Dramatics and Computer Science ?
   (*a*) Shobha (*b*) Poonam (*c*) Madhu (*d*) Anjali
8. Who is good in Physics, History and Dramatics ?
   (*a*) Poonam (*b*) Shobha (*c*) Madhu (*d*) Anjali

9. Who is good in History, Physics, Computer Science and Mathematics ?
(*a*) Poonam (*b*) Nisha (*c*) Madhu (*d*) Anjali

10. Who is good in Physics, History and Mathematics but not in Computer Science ?
(*a*) Madhu (*b*) Poonam (*c*) Nisha (*d*) Anjali

11. Ravi is not wearing white and Ajay is not wearing blue. Ravi and Sohan wear different colours. Sachin alone wears red. **(Central Excise, 1992)**
What is Sohan's colour, if all four of them are wearing different colours ?
(*a*) Red (*b*) Blue (*c*) White (*d*) Can't say

Directions (*Questions 12-13*) : *Study the following information and answer the questions given below it :*

(*i*) Kailash, Govind and Harinder are intelligent.
(*ii*) Kailash, Rajesh and Jitendra are hard-working.
(*iii*) Rajesh, Harinder and Jitendra are honest.
(*iv*) Kailash, Govind and Jitendra are ambitious.

12. Which of the following persons is neither hard-working nor ambitious ?
(*a*) Kailash (*b*) Govind (*c*) Harinder (*d*) Rajesh (*e*) None of these

13. Which of the following persons is neither honest nor hard-working but is ambitious ?
(*a*) Kailash (*b*) Govind (*c*) Rajesh (*d*) Harinder (*e*) None of these

Directions (*Questions 14 to 17*) : *Read the following information and answer the questions that follow :* **(Railways, 1993)**

Four youngmen Raj, Prem, Ved and Ashok are friendly with four girls Sushma, Kusum, Vimla and Poonam. Sushma and Vimla are friends. Ved's girl friend does not like Sushma and Vimla. Kusum does not care for Ved. Prem's girl friend is friendly with Sushma. Sushma does not like Raj.

14. Who is Raj's girl friend ?
(*a*) Sushma (*b*) Kusum (*c*) Vimla (*d*) Poonam

15. With whom is Sushma friendly ?
(*a*) Raj (*b*) Prem (*c*) Ved (*d*) Ashok

16. Who is Poonam's boy friend ?
(*a*) Ashok (*b*) Ved (*c*) Prem (*d*) Raj

17. Who does not like Sushma and Vimla ?
(*a*) Poonam (*b*) Raj (*c*) Ashok (*d*) Ved

18. In a cricket season, India defeated Australia twice, West Indies defeated India twice, Australia defeated West Indies twice, India defeated New Zealand twice and West Indies defeated New Zealand twice. Which country has lost most number of times ?
(*a*) India (*b*) Australia (*c*) New Zealand (*d*) West Indies
(I. Tax & Central Excise, 1992)

Directions (*Questions 19 to 21*) : *Read the following information and answer the questions given below it :*

Six students A, B, C, D, E and F are sitting in the field. A and B are from Nehru House while the rest belong to Gandhi House. D and F are tall while the others are short. A, C and D are wearing glasses while the others are not.

19. Which two students, who are not wearing glasses are short ?
(*a*) A and F (*b*) C and E (*c*) B and F (*d*) E and F (*e*) None of these

20. Which short student of Gandhi House is not wearing glasses ?
(*a*) F (*b*) E (*c*) B (*d*) A (*e*) Data inadequate

21. Which tall student of Gandhi House is not wearing glasses ?
(*a*) B (*b*) C (*c*) E (*d*) F (*e*) None of these

22. Six students A, B, C, D, E and F are sitting in the field. A and B are from Delhi while the rest are from Bangalore. D and F are tall while others are short. A, C and D are girls while others are boys. Which is the tall girl from Bangalore ?
(*a*) C (*b*) D (*c*) E (*d*) F
(I. Tax & Central Excise, 1996)

23. On a shelf are placed six volumes side-by-side labelled A, B, C, D, E and F. B, C, E, F have green covers while others have yellow covers. A, D, B are new volumes while the rest are old volumes. A, C, B are law reports while the rest are medical extracts. Which two volumes are old medical extracts and have green covers ? **(Assistant Grade, 1996)**
(*a*) B, C (*b*) C, D (*c*) C, E (*d*) E, F

Directions (*Questions 24 to 28*) : *Read the following information carefully and answer the questions given below it :*

There are six persons A, B, C, D, E and F in a school. Each of the teachers teaches two subjects, one compulsory subject and the other optional subject. D's optional subject was History while three others have it as compulsory subject. E and F have Physics as one of their subjects. F's compulsory subject is Mathematics which is an optional subject of both C and E. History and English are A's subjects but in terms of compulsory and optional subjects, they are just reverse of those of D's. Chemistry is an optional subject of only one of them. The only female teacher in the school has English as her compulsory subject.

24. What is C's compulsory subject ?
(*a*) History (*b*) Physics (*c*) Chemistry (*d*) English (*e*) Mathematics

25. Who is a female member in the group ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) E

26. Which of the following has same compulsory and optional subjects as those of F's ?
(*a*) D (*b*) B (*c*) A (*d*) C (*e*) None of these

27. Disregarding which is the compulsory and which is the optional subject, who has the same two subject combination as F ?
(*a*) A (*b*) B (*c*) E (*d*) D (*e*) None of these

28. Which of the following groups has History as the compulsory subject ?
(*a*) A, C, D (*b*) B, C, D (*c*) C, D (*d*) A, B, C (*e*) A, D

Directions (*Questions 29 to 32*) : *Read the following information carefully and answer the questions that follow :* **(Bank P.O. 1996)**

(*i*) Jayant, Kamal, Namita, Asha and Tanmay are five members of a family.
(*ii*) They have their birth dates from January to May, each member in one of these months.
(*iii*) Each one likes one particular item for his/her birthday out of Bengali Sweets, Chocolates, Pastries, Ice Cream and Dry Fruits.
(*iv*) The one who likes Pastries is born in the month which is exactly middle in the months given.

(*v*) Asha does not like Ice cream but brings Chocolates for Jayant in February.
(*vi*) Tanmay who is fond of Bengali sweets is born in the next month immediately after Namita.
(*vii*) Namita does not like Dry fruits or Ice cream.

29. What is the choice of Asha ?
(*a*) Pastries (*b*) Dry fruits (*c*) Bengali sweets
(*d*) Cannot be determined (*e*) None of these

30. Which combination of month and item is true for Jayant ?
(*a*) March — Pastries (*b*) February — Pastries (*c*) February — Ice cream
(*d*) Cannot be determined (*e*) None of these

31. What is the choice of Kamal ?
(*a*) Ice cream (*b*) Bengali sweets (*c*) Dry fruits
(*d*) Cannot be determined (*e*) None of these

32. In which month was Kamal born ?
(*a*) January (*b*) May (*c*) January or May
(*d*) Data inadequate (*e*) None of these

Directions (*Questions 33 to 37*) : *Read the following information carefully and answer the questions that follow :* **(S.B.I.P.O. 1997)**

(*i*) P, Q, R, S, T and U are six students procuring their Master's degree in six different subjects — English, History, Philosophy, Physics, Statistics and Mathematics.
(*ii*) Two of them stay in hostel, two stay as paying guest (PG) and the remaining two stay at their home.
(*iii*) R does not stay as PG and studies Philosophy.
(*iv*) The students studying Statistics and History do not stay as PG.
(*v*) T studies Mathematics and S studies Physics.
(*vi*) U and S stay in hostel. T stays as PG and Q stays at home.

33. Who studies English ?
(*a*) R (*b*) S (*c*) T (*d*) U (*e*) None of these

34. Which of the following combinations of subject and place of stay is not correct ?
(*a*) English — Hostel (*b*) Mathematics — PG (*c*) Philosophy — Home
(*d*) Physics — Hostel (*e*) None of these

35. Which of the following pairs of students stay one each at hostel and at home ?
(*a*) QR (*b*) SR (*c*) US (*d*) Data inadequate (*e*) None of these

36. Which subject does Q study ?
(*a*) History (*b*) Statistics (*c*) History or Statistics
(*d*) Data inadequate (*e*) None of these

37. Which of the following pairs of students stay at home ?
(*a*) PQ (*b*) QR (*c*) RS (*d*) ST (*e*) None of these

Directions (*Questions 38 to 42*) : *Study the following information and answer the questions given below it :* **(Stenographer's Exam, 1994)**

Rohit, Kunal, Ashish and John are students of a school. Three of them stay far from the school and one near it. Two study in class IV, one in class V and one in class VI. They study Hindi, Mathematics, Social Science and Science. One is good at all the four subjects while another is weak in all of these. Rohit stays far from the school and is good at Mathematics only while Kunal is weak in Mathematics

only and stays close to the school. Neither of these two nor Ashish studies in class VI. One who is good at all the subjects studies in class V.

38. Name the boy who is good at all the subjects.
(*a*) Rohit (*b*) Kunal (*c*) Ashish (*d*) John

39. Name the boy who is weak in all the subjects.
(*a*) Rohit (*b*) Kunal (*c*) Ashish (*d*) John

40. Which two boys are good at Hindi ?
(*a*) Rohit and Kunal (*b*) Kunal and Ashish
(*c*) Ashish and John (*d*) John and Rohit

41. Which two boys are good at Mathematics ?
(*a*) Rohit and Ashish (*b*) Kunal and Ashish
(*c*) John and Ashish (*d*) Rohit and John

42. Other than Rohit and the boy good at all the subjects, who else stays far from the school ?
(*a*) Rohit (*b*) Kunal (*c*) Ashish (*d*) John

Directions (*Questions 43 to 45*) : *Study the given information carefully and answer the questions that follow :* **(Bank P.O. 1997)**

(*i*) There are six friends A, B, C, D, E and F.
(*ii*) Each one is proficient in one of the games, namely Badminton, Volleyball, Cricket, Hockey, Tennis and Polo.
(*iii*) Each owns a different coloured car, namely yellow, green, black, white, blue and red.
(*iv*) D plays Polo and owns a yellow coloured car.
(*v*) C does not play either Tennis or Hockey and owns neither blue nor yellow coloured car.
(*vi*) E owns a white car and plays Badminton.
(*vii*) B does not play Tennis, he owns a red coloured car.
(*viii*) A plays Cricket and owns a black car.

43. Who plays Volleyball ?
(*a*) B (*b*) C (*c*) F
(*d*) Data inadequate (*e*) None of these

44. Which coloured car F owns ?
(*a*) Green (*b*) Blue (*c*) Either Green or Blue
(*d*) Data inadequate (*e*) None of these

45. Which of the following combinations of colour of car and game played is not correct ?
(*a*) Yellow — Polo (*b*) Green — Tennis (*c*) Black — Cricket
(*d*) Red — Hockey (*e*) None of these

46. In a group of six women, there are four dancers, four vocal musicians, one actress and three violinists. Girija and Vanaja are among the violinists while Jalaja and Shailja do not know how to play on the violin. Shailja and Tanuja are among the dancers. Jalaja, Vanaja, Shailja and Tanuja are all vocal musicians and two of them are also violinists. If Pooja is an actress, who among the following is both a dancer and a violinist ? **(I.A.S. 1993)**
(*a*) Jalaja (*b*) Shailja (*c*) Tanuja (*d*) Pooja

ANSWERS

Questions 1 to 5

The given information may be analysed as under :

	English	Hindi	Mathematics	Geography	History	French
A	√	√	√			
B	√	√		√	√	√
C	√			√		
D		√	√			
E					√	√

1. (*b*) : B teaches maximum number of subjects *i.e.* 5.
2. (*e*) : Only B teaches both Hindi and Geography.
3. (*b*) : Three teachers were teaching Hindi — A, B and D.
4. (*c*) : D, B and A were teaching Hindi.
5. (*e*) : None of the teachers was teaching less than two subjects.

Questions 6 to 10

The given information can be analysed as under :

	Dramatics	Computer Sc.	Physics	History	Mathematics
Madhu	√	√	√		
Shobha	√	√		√	
Anjali		√	√	√	√
Poonam	√		√	√	
Nisha			√	√	√

6. (*c*) : Shobha is good in Computer Science, History and Dramatics.
7. (*c*) : Madhu is good in Physics, Dramatics and Computer Science.
8. (*a*) : Poonam is good in Physics, History and Dramatics.
9. (*d*) : Anjali is good in History, Physics, Computer Science and Mathematics.
10. (*c*) : Nisha is good in Physics, History and Mathematics but not in Computer Science.
11. (*d*) : The fourth colour and some more information are required.

Questions 12-13

We may prepare a table as under :

	Intelligent	Hard-working	Honest	Ambitious
Kailash	√	√		√
Govind	√			√
Harinder	√		√	
Rajesh		√	√	
Jitendra		√	√	√

12. (*c*) : Harinder is neither hard-working nor ambitious.
13. (*b*) : Govind is ambitious but neither honest nor hard-working.

Questions 14 to 17

Sushma and Vimla are friends and Prem's girl friend is friendly with Sushma. This means that **Prem's girl friend is Vimla.**

Ved's girl friend does not like Sushma and Vimla. So, she is either Kusum or Poonam. But Kusum does not care for Ved. So, **Ved's girl friend is Poonam.**

Sushma does not like Raj. So, **Raj's girl friend is Kusum.**

Clearly, **Ashok's girl friend is Sushma.**

14. (*b*) : Raj's girl friend is Kusum.

15. (*d*) : Sushma is friendly with Ashok.

16. (*b*) : Poonam's boy friend is Ved.

17. (*a*) : Ved's girl friend *i.e.*, Poonam does not like Sushma and Vimla.

18. (*c*) : Australia was defeated twice by India.
India was defeated twice by West Indies.
West Indies was defeated twice by Australia.
New Zealand was defeated twice by India and twice by West Indies *i.e.* 4 times in all.

Questions 19 to 21

We may prepare a table as under :

	Nehru House	Gandhi House	Tall	Short	Glasses	No glasses
A	√			√	√	
B	√			√		√
C		√		√	√	
D		√	√		√	
E		√		√		√
F		√	√			√

19. (*c*) : B and E are short and not wearing glasses.

20. (*b*) : E belongs to Gandhi House, is short and does not wear glasses.

21. (*d*) : F belongs to Gandhi House, is tall and is not wearing glasses.

22. (*b*) :

	Delhi	Bangalore	Tall	Short	Girls	Boys
A	√			√	√	
B	√			√		√
C		√		√	√	
D		√	√		√	
E		√		√		√
F		√	√			√

Clearly, D is the tall girl from Bangalore.

23. (*d*) :

	Green Cover	Yellow Cover	New Volume	Old Volume	Law Reports	Medical Extracts
A		√	√		√	
B	√		√		√	
C	√			√	√	
D		√	√			√
E	√			√		√
F	√			√		√

Clearly, E and F are old volumes which have green covers and are medical extracts.

Questions 33 to 37

(I) T stays as PG; S stays in hostel.
U stays in hostel and Q stays at home.
Now, R does not stay as PG. So, P stays as PG.
Clearly, R stays at home.

(II) S studies Physics; R studies Philosophy and T studies Mathematics. Now, P who stays as PG does not study Statistics or History. So, P studies English.

	Place of stay	Subject
P	PG	English
Q	Home	Statistics or History
R	Home	Philosophy
S	Hostel	Physics
T	PG	Mathematics
U	Hostel	Statistics or History

33. (*e*) : P studies English.
34. (*a*) : Clearly the incorrect combination is English — Hostel.
35. (*b*) : S stays in hostel and R stays at home.
36. (*c*) : Q studies History or Statistics.
37. (*b*) : Q and R stay at home.

Questions 38 to 42

(I) Kunal stays close to school. So, the other three — Rohit, Ashish and John stay far from the school.

(II) Rohit, Kunal and Ashish do not study in class VI. So, John studies in class VI.
Rohit and Kunal are not good at all subjects and John is in class VI. So, Ashish is good at all subjects and studies in class V.
Clearly, Rohit and Kunal study in class IV.

(III) Rohit is good at Mathematics, Kunal is weak in Mathematics. Ashish is good at all the subjects. Clearly, John is weak in all the subjects.

	Stay	Class	Good at	Weak in
Rohit	Far	IV	Mathematics	Hindi, Science, Social Science
Kunal	Close	IV	Hindi, Science, Social Science	Mathematics
Ashish	Far	V	All subjects	
John	Far	VI		All subjects

38. (*c*) : Ashish is good at all the subjects.
39. (*d*) : John is weak in all the subjects.
40. (*b*) : Kunal and Ashish are good at Hindi.
41. (*a*) : Rohit and Ashish are good at Mathematics.
42. (*d*) : Other than Rohit and Ashish, John stays far from school.

Questions 43 to 45

(I) D plays Polo; E plays Badminton; A plays Cricket. C does not play Tennis or Hockey. So, C plays Volleyball.
B does not play Tennis. So, he plays Hockey. Clearly, F plays Tennis.

Questions 24 to 28

The given information can be analysed as follows :

Let 'O' denote optional and 'C' denote compulsory.

	A	B	C	D	E	F
History	C	C	C	O	–	–
Physics	–	–	–	–	C	O
Mathematics	–	–	O	–	O	C
English	O	–	–	C	–	–
Chemistry	–	O	–	–	–	–

One compulsory subject of F is Mathématics. F has Physics as one of the subjects. So, Physics is optional of F. F has Mathematics as optional and Physics as one subject.

So, Physics is the compulsory subject of E. A and D have the same subjects — History and English. D has History as optional subject and so English is the compulsory subject of D. Subjects of A and D are reverse in regard of optional and compulsory.

So, A has History as compulsory subject and English as optional.

Chemistry is the optional subject of only one teacher. So, it is the optional of B, which only remains.

We know that History is the compulsory subject of three teachers. So, it is compulsory for A, B and C.

D is the teacher having English as her compulsory subject.

So, D is the only female teacher.

24. (*a*) : C's compulsory subject is History.

25. (*d*) : D is the only female teacher.

26. (*e*) : E has same subjects as those of F but the compulsory and optional subjects of E are reverse of those of F. So, the answer is 'none of these'.

27. (*c*) : Clearly, E has the same subject combination as that of F.

28. (*d*) : A, B and C have History as the compulsory subject.

Questions 29 to 32

(I) **Choice :** Jayant likes Chocolates; Tanmay likes Bengali sweets. Namita does not like Dry fruits or Ice cream. So, Namita likes Pastries. Asha does not like Ice cream. So, she is fond of Dry fruits. Finally, Kamal likes Ice cream.

(II) **Date of Birth :** The one who likes Pastries *i.e.*, Namita is born in the middle of months given *i.e.*, in March. Tanmay is born in next month after Namita *i.e.*, in April. Jayant's birthday is in February.

	Choice	Date of birth
Jayant	Chocolates	February
Kamal	Ice cream	January or May
Namita	Pastries	March
Asha	Dry fruits	January or May
Tanmay	Bengali sweets	April

29. (*d*) : The choice of Asha is Dry fruits.

30. (*e*) : The correct combination for Jayant is February — Chocolates.

31. (*a*) : The choice of Kamal is Ice cream.

32. (*c*) : Kamal was born in January or May.

(II) D has yellow car; E has white car; B has a red car; A has a black car.
Now, C does not have a blue car. So, colour of C's car is green.
Clearly, F owns a blue car.

	Game	Colour of Car
A	Cricket	Black
B	Hockey	Red
C	Volleyball	Green
D	Polo	Yellow
E	Badminton	White
F	Tennis	Blue

43. (*b*) : C plays Volleyball.

44. (*b*) : F owns a blue car.

45. (*b*) : Clearly, the incorrect combination is Green — Tennis.

46. (*c*) : The four vocal musicians and one actress in the group are given. Two dancers are Shailja and Tanuja. Two violinists are Girija and Vanaja. Since Jalaja and Shailja cannot be violinists, so, remaining two violinists are Tanuja and Pooja. Clearly, Tanuja is both a violinist and a dancer.

TYPE 2 : SEATING/PLACING ARRANGEMENTS

In this type of questions, some clues regarding seating or placing sequence (linear or circular) of some persons or items is given. The candidate is required to form the proper sequence using these clues and answer the questions accordingly.

Ex. 1. ***Read the following information carefully and answer the questions given below :***

Six persons A, B, C, D, E and F are sitting in two rows, three in each.
E is not at the end of any row.
D is second to the left of F.
C, the neighbour of E, is sitting diagonally opposite to D.
B is the neighbour of F.

1. Which of the following are sitting diagonally opposite to each other ?
(*a*) F and C (*b*) D and A (*c*) A and C (*d*) A and F (*e*) A and B

2. Who is facing B ?
(*a*) A (*b*) C (*c*) D (*d*) E (*e*) F

3. Which of the following are in the same row ?
(*a*) A and E (*b*) E and D (*c*) C and B (*d*) A and B (*e*) C and E

4. Which of the following are in one of the two rows ?
(*a*) FBC (*b*) CEB (*c*) DBF (*d*) AEF (*e*) ABF

5. After interchanging seat with E, who will be the neighbours of D in the new position ?
(*a*) C and A (*b*) F and B (*c*) Only B (*d*) Only A (*e*) Only C

Solution : The given information can be analysed as follows :
E is not at end. So, E must be in the middle of one of the rows.
D is second to the left of F. So, order of the row must be D — F.

C is neighbour of E and is sitting diagonally opposite to D means C is under F in the other row *i.e.*, D — F

— E C

B is the neighbour of F.

So, the arrangement must be D B F

A E C

1. Other than D and C (given), A and F are sitting diagonally opposite to each other, as seen in the arrangement. So, the answer is (*d*).
2. Clearly, E is opposite to B in the other row. So, E is facing B and the answer is (*d*).
3. Clearly, from amongst the given alternatives, A and E are in the same row. So, the answer is (*a*).
4. Clearly, from amongst the given alternatives, D, B and F are in the same row. So, the answer is (*c*).
5. Clearly, neighbours of E are A and C. So, on interchanging the seat with E, the new neighbours of D will be A and C. So, the answer is (*a*).

Ex. 2. Eight books are kept one over the other. Counting from the top, the second, fifth and sixth books are on Plays. Two books on Plays are between two books on Composition. One book of Plays is between two books on Poetry while the book at the top of the book of Literature is a book of Composition. Which book is fourth from the top ?

(*a*) Plays (*b*) Poetry (*c*) Composition (*d*) Literature

Solution : We analyse the given information as follows :

Let C denote 'Composition', P denote 'Plays', Po denote 'Poetry' and L denote 'Literature'.

1	2	3	4	5	6	7	8
–	P	–	–	P	P	–	–
–	–	–	C	P	P	C	–
Po	P	Po	–	–	–	–	–
–	–	–	–	–	–	C	L

So, the arrangement becomes :

1	2	3	4	5	6	7	8
Po	P	Po	C	P	P	C	L

Clearly, the fourth book from the top is on Composition. So, the answer is (*c*).

Ex. 3. ***Read the following information and answer the questions that follow :***

(*i*) Six friends A, B, C, D, E and F are sitting in a closed circle facing the centre.

(*ii*) E is to the left of D.

(*iii*) C is between A and B.

(*iv*) F is between E and A.

1. Who is to the left of B ?

(*a*) A (*b*) C (*c*) D (*d*) E (*e*) None of these

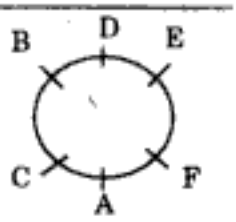
2. Who is to the right of C ?

(*a*) A (*b*) B (*c*) D (*d*) E (*e*) F

3. Which of the above given statements is superfluous ?

(*a*) (*i*) (*b*) (*ii*) (*c*) (*iii*) (*d*) (*iv*) (*e*) None of these

Solution : Clearly, in the circle the arrangement is as shown :



1. (*c*) : Clearly, D is to the left of B.

2. (*a*) : Clearly, A is to the right of C.

3. (*e*) : Since all the statements are necessary to determine the arrangement, none of them is superfluous.

EXERCISE 6B

1. Four girls are sitting on a bench to be photographed. Shikha is to the left of Reena. Manju is to the right of Reena. Rita is between Reena and Manju. Who would be second from the left in the photograph ? **(Bank P.O. 1994)**

(*a*) Reena (*b*) Shikha (*c*) Manju (*d*) Rita

2. There are five different houses, A to E, in a row. A is to the right of B and E is to the left of C and right of A. B is to the right of D. Which of the houses is in the middle ? **(C.B.I. 1995)**

(*a*) A (*b*) B (*c*) D (*d*) E

3. 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

(Assistant Grade, 1996)

4. Five children are sitting in a row. S is sitting next to P but not T. K is sitting next to R who is sitting on the extreme left and T is not sitting next to K. Who are sitting adjacent to S ?

(*a*) K and P (*b*) R and P (*c*) Only P

(*d*) P and T (*e*) Insufficient information

5. Five girls are sitting in a row. Rashi is not adjacent to Sulekha or Abha. Anuradha is not adjacent to Sulekha. Rashi is adjacent to Monika. Monika is at the middle in the row. Then, Anuradha is adjacent to whom out of the following ?

(*a*) Rashi (*b*) Sulekha (*c*) Abha

(*d*) Monika (*e*) Cannot be determined

Directions (*Questions 6 to 8*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1994)**

(A) There are five friends.

(B) They are standing in a row facing South.

(C) Jayesh is to the immediate right of Alok.

(D) Pramod is between Bhagat and Subodh.

(E) Subodh is between Jayesh and Pramod.

6. Who is at the extreme left end ?

(*a*) Alok (*b*) Bhagat (*c*) Subodh

(*d*) Data inadequate (*e*) None of these

7. Who is in the middle ?

(*a*) Bhagat (*b*) Jayesh (*c*) Pramod

(*d*) Subodh (*e*) Alok

8. To find answers to the above two questions, which of the given statements can be dispensed with ?

(*a*) None (*b*) A only (*c*) B only (*d*) C only **(*e*) D only**

9. Five persons A, B, C, D and E are sitting in a row facing you such that D is on the left of C and B is on the right of E. A is on the right of C and B is on the left of D. If E occupies a corner position, then who is sitting in the centre ?

(*a*) A (*b*) B (*c*) C (*d*) D (C.B.I. 1995)

Directions (*Questions 10 to 14*) : *Study the given information carefully and answer the questions that follow :* (L.I.C. 1994)

(*i*) A, B, C, D, E, F and G are sitting on a wall and all of them are facing east.

(*ii*) C is on the immediate right of D.

(*iii*) B is at an extreme end and has E as his neighbour.

(*iv*) G is between E and F.

(*v*) D is sitting third from the south end.

10. Who is sitting to the right of E ?

(*a*) A (*b*) C (*c*) D (*d*) F (*e*) None of these

11. Which of the following pairs of people are sitting at the extreme ends ?

(*a*) AB (*b*) AE (*c*) CB (*d*) FB (*e*) Cannot be determined

12. Name the person who should change places with C such that he gets the third place from the north end.

(*a*) E (*b*) F (*c*) G (*d*) D

13. Immediately between which of the following pairs of people is D sitting ?

(*a*) AC (*b*) AF (*c*) CE (*d*) CF (*e*) None of these

14. Which of the conditions (*i*) to (*v*) given above is not required to find out the place in which A is sitting ?

(*a*) (*i*) (*b*) (*ii*) (*c*) (*iii*) (*d*) All are required (*e*) None of these

15. In the Olympic Games, the flags of six nations were flown on the masts in the following way : (Assistant Grade, 1996)

The flag of America was to the left of Indian tricolour and to the right of the flag of France. The flag of Australia was on the right of the Indian flag but was to the left of the flag of Japan, which was to the left of the flag of China. Find the two flags which are in the centre.

(*a*) India and Australia (*b*) America and India

(*c*) Japan and Australia (*d*) America and Australia

16. Mr. A, Miss B, Mr. C and Miss D are sitting around a table and discussing their trades.

(1) Mr. A sits opposite to cook.

(2) Miss B sits right to the barber.

(3) The washerman is on the left of the tailor.

(4) Miss D sits opposite Mr. C.

What are the trades of A and B ?

(*a*) Tailor and Barber (*b*) Tailor and Cook

(*c*) Barber and Cook (*d*) Washerman and Cook

17. Sitting in a row in front of a camera, Mr. X is on the left of the person sitting in the centre but is on the right of Mr. Y. Mr. P is on the right of Mr. Z and Mr. R is on the right of Mr. P. Mr. R is the second person from the person sitting in the centre. Who is the person sitting in the centre ? **(C.B.I. 1993)**

(*a*) Mr. X (*b*) Mr. Y (*c*) Mr. Z (*d*) Mr. R

Directions (*Questions 18 to 22*) : *Study the given information carefully and answer the questions that follow :* **(U.T.I. 1993)**

(*i*) Eleven students, A, B, C, D, E, F, G, H, I, J and K are sitting in the first row of the class facing the teacher.

(*ii*) D who is to the immediate left of F is second to the right of C.

(*iii*) A is second to the right of E, who is at one of the ends.

(*iv*) J is the immediate neighbour of A and B and third to the left of G.

(*v*) H is to the immediate left of D and third to the right of I.

18. Who is sitting in the middle of the row ?

(*a*) B (*b*) C (*c*) G (*d*) I (*e*) None of these

19. Which of the following groups of friends is sitting to the right of G ?

(*a*) CHDE (*b*) CHDF (*c*) IBJA (*d*) ICHDF (*e*) None of these

20. Which of the following statements is true in the context of the above sitting arrangements ?

(*a*) There are three students sitting between D and G.

(*b*) K is between A and J.

(*c*) B is sitting between J and I.

(*d*) G and C are neighbours sitting to the immediate right of H.

21. In the above sitting arrangement, which of the following statements is superfluous ?

(*a*) (*i*) (*b*) (*ii*) (*c*) (*iii*) (*d*) (*iv*) (*e*) None is superfluous

22. If E and D, C and B, A and H and K and F interchange their positions, which of the following pairs of students is sitting at the ends ?

(*a*) D and E (*b*) E and F (*c*) D and K

(*d*) K and F (*e*) None of these

Directions (*Questions 23 to 27*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1995)**

(*i*) Eight persons E, F, G, H, I, J, K and L are seated around a square table — two on each side.

(*ii*) There are three lady members and they are not seated next to each other.

(*iii*) J is between L and F.

(*iv*) G is between I and F.

(*v*) H, a lady member, is second to the left of J.

(*vi*) F, a male member is seated opposite E, a lady member.

(*vii*) There is a lady member between F and I.

23. Who among the following is seated between E and H ?

(*a*) F (*b*) I (*c*) J

(*d*) Cannot be determined (*e*) None of these

24. How many persons are seated between K and F ?

(*a*) One (*b*) Two (*c*) Three

(*d*) Cannot be determined (*e*) None of these

25. Who among the following are the three lady members ?
(*a*) E, G and J (*b*) E, H and G (*c*) G, H and J
(*d*) Cannot be determined (*e*) None of these

26. Who among the following is to the immediate left of F ?
(*a*) G (*b*) I (*c*) J
(*d*) Cannot be determined (*e*) None of these

27. Which of the following is true about J ?
(*a*) J is a male member. (*b*) J is a female member.
(*c*) Sex of J cannot be determined. (*d*) Position of J cannot be determined.
(*e*) None of these

Directions (*Questions 28-29*) : *On the basis of the information given below, answer questions 28-29.*

(A) P, Q, R, S and T are sitting in a circle facing the centre.
(B) R is immediate left of T.
(C) P is between S and T.

28. Who is to the immediate left of R ?
(*a*) P (*b*) Q (*c*) S (*d*) T (*e*) Cannot be determined

29. To find the answer to the above question, which of the following statements can be dispensed with ?
(*a*) None (*b*) B only (*c*) C only (*d*) B or C only (*e*) None of these

30. Six friends A, B, C, D, E and F are sitting in a closed circle facing the centre. A is facing D. C is between A and B. F is between E and A. Who is to the immediate left of B ? **(I. Tax & Central Excise, 1996)**
(*a*) A (*b*) C (*c*) D (*d*) E

Directions (*Questions 31-32*) : *Read the following information carefully and answer the questions that follow :* **(Bank P.O. 1995)**

A, B, C, D, E and F are seated in a circle facing the centre. D is between F and B. A is second to the left of D and second to the right of E.

31. Who is facing A ?
(*a*) B (*b*) D (*c*) F
(*d*) Either F or B (*e*) None of these

32. Who among the following is facing D ?
(*a*) A (*b*) C (*c*) E
(*d*) Cannot be determined (*e*) None of these

Directions : *On the basis of the information given below, answer questions 33-34.* **(S.B.I.P.O. 1995)**

Eight friends A, B, C, D, E, F, G and H are sitting in a circle facing the centre. B is sitting between G and D. H is third to the left of B and second to the right of A. C is sitting between A and G and B and E are not sitting opposite to each other.

33. Who is third to the left of D ?
(*a*) A (*b*) E (*c*) F
(*d*) Cannot be determined (*e*) None of these

34. Which of the following statements is not correct ?
(*a*) C is third to the right of D. (*b*) A is sitting between C and F.

(*c*) D and A are sitting opposite of each other.
(*d*) E is sitting between F and D.
(*e*) E and C are sitting opposite of each other.

35. A group of eight members sit in a circle. D is between A and F and is opposite to G. E is to the right of A but on the left of C, whose right hand neighbour is G. B enjoys having H to his left and F to his right. Find the member who is diagonally opposite to A. **(Central Excise, 1995)**
(*a*) B (*b*) F (*c*) G (*d*) H

Directions (*Questions 36 to 38*) : *Study the given information carefully and answer the questions that follow :* **(U.T.I. 1993)**

(*i*) There are seven books one each on Psychology, Hindi, English, Sociology, Economics, Education and Accountancy, lying on a table one above the other.
(*ii*) Sociology is on the top of all the books.
(*iii*) Accountancy is immediately below Education which is immediately below Sociology.
(*iv*) Economics is immediately above Psychology but not in the middle.
(*v*) Hindi is immediately below Psychology.

36. Economics is between which of the following books ?
(*a*) Accountancy and Education (*b*) Psychology and Hindi
(*c*) English and Psychology (*d*) Psychology and Sociology
(*e*) None of these

37. Which three books are between Accountancy and Hindi ?
(*a*) English, Economics and Psychology
(*b*) Economics, Psychology and Education
(*c*) Economics, Psychology and Hindi
(*d*) Cannot be determined
(*e*) None of these

38. If Sociology and English, Accountancy and Hindi and Education and Psychology interchange their positions, which book will be between Psychology and Sociology ?
(*a*) Accountancy (*b*) Psychology (*c*) Hindi
(*d*) Economics (*e*) None of these

39. In a shop, the items were arranged in a shelf consisting of six rows. Biscuits are arranged above the tins of chocolates but below the rows of packets of chips, cakes are at the bottom and the bottles of peppermints are below the chocolates. The topmost row had the display of jam bottles. Where exactly are the bottles of peppermints ? Mention the place from the top. **(Central Excise, 1996)**
(*a*) 2nd (*b*) 3rd (*c*) 4th (*d*) 5th

40. In a pile of reading material, there are novels, story-books, dramas and comics. Every novel has a drama next to it, every story-book has a comic next to it and there is no story-book next to a novel. If there be a novel at the top and the number of books be 40, the order of the books in the pile is :
(*a*) nscd (*b*) ndsc (*c*) csdn (*d*) dncs
(Hotel Management, 1996)

Directions (*Questions 41-42*) : *The following questions are based on the information given below :* **(S.B.I.P.O. 1995)**

(*i*) Seven books are placed one above the other in a particular way.

(*ii*) History book is placed exactly above Civics book.

(*iii*) Geography book is fourth from the bottom and English book is fifth from the top.

(*iv*) There are two books in between Civics and Economics books.

41. How many books are there between Civics and Science books ? To answer this question, which other extra information is required, if any, from the following ?

(*a*) There are two books between Geography and Science books.

(*b*) There are two books between Mathematics and Geography books.

(*c*) There is one book between English and Science books.

(*d*) The Civics book is before two books above Economics book.

(*e*) No other information is required.

42. Out of the following, which three books are kept above English book ? To answer this question, which of the other informations, if any, is required ?

(*a*) The Economics book is between English and Science books.

(*b*) There are two books between English and History books.

(*c*) The Geography book is above English book.

(*d*) The Science book is placed at the top.

(*e*) No other information is required.

43. In a pile of 10 books, there are 3 of History, 3 of Hindi, 2 of Mathematics and 2 of English. Taking from above, there is an English book between a History and Mathematics book, a History book between a Mathematics and an English book, a Hindi book between an English and a Mathematics book, a Mathematics book between two Hindi books and two Hindi books between a Mathematics and a History book. Book of which subject is at the sixth position from the top ?

(*a*) English (*b*) Hindi (*c*) Mathematics (*d*) History

Directions (*Questions 44 to 48*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1991)**

In a car exhibition, seven cars of seven different companies *viz.* Cardilac, Ambassador, Fiat, Maruti, Mercedes, Bedford and Fargo were displayed in a row, facing east such that :

(1) Cardilac car was to the immediate right of Fargo.

(2) Fargo was fourth to the right of Fiat.

(3) Maruti car was between Ambassador and Bedford.

(4) Fiat, which was third to the left of Ambassador car, was at one of the ends.

44. Which of the following was the correct position of the Mercedes ?

(*a*) Immediate right of Cardilac (*b*) Immediate left of Bedford

(*c*) Between Bedford and Fargo (*d*) Fourth to the right of Maruti

(*e*) None of these

45. Which of the following is definitely true ?

(*a*) Fargo car is between Ambassador and Fiat.

(*b*) Cardilac car is to the immediate left of Mercedes.

(*c*) Fargo is to the immediate right of Cardilac.

(*d*) Maruti is fourth to the right of Mercedes.

(*e*) None of these

46. Which cars are on the immediate either sides of the Cardilac car ?
(*a*) Ambassador and Marufi (*b*) Maruti and Fiat (*c*) Fiat and Mercedes
(*d*) Ambassador and Fargo (*e*) None of these

47. Which of the following is definitely true ?
(*a*) Maruti is to the immediate left of Ambassador.
(*b*) Bedford is to the immediate left of Fiat.
(*c*) Bedford is at one of the ends.
(*d*) Fiat is second to the right of Maruti.
(*e*) None of these

48. Which of the following groups of cars is to the right of the Ambassador car ?
(*a*) Cardilac, Fargo and Maruti (*b*) Maruti, Bedford and Fiat
(*c*) Mercedes, Cardilac and Fargo (*d*) Bedford, Cardilac and Fargo

Directions (*Questions 49 to 53*) : *Study the following information carefully and answer the questions given below it :*

All the roads of a city are either perpendicular or parallel to one another. The roads are all straight. Roads A, B, C, D and E are parallel to one another. Roads G, H, I, J, K, L and M are parallel to one another.

(*i*) Road A is 1 km east of road B.
(*ii*) Road B is $\frac{1}{2}$ km west of road C.
(*iii*) Road D is 1 km west of road E.
(*iv*) Road G is $\frac{1}{2}$ km south of road H.
(*v*) Road I is 1 km north of road J.
(*vi*) Road K is $\frac{1}{2}$ km north of road L.
(*vii*) Road K is 1 km south of road M.

49. Which is necessarily true ?
(*a*) E and B intersect. (*b*) D is 2 km west of B.
(*c*) D is at least 2 km west of A. (*d*) M is 1.5 km north of L.
(*e*) I is 1 km north of L.

50. If E is between B and C, which of the following is false ?
(*a*) D is 2 km west of A.
(*b*) C is less than 1.5 km from D.
(*c*) Distance from E to B added to distance of E to C is $\frac{1}{2}$ km.
(*d*) E is less than 1 km from A.
(*e*) D is less than 1 km from B.

51. If road E is between B and C, then distance between A and D is :
(*a*) $\frac{1}{2}$ km (*b*) 1 km (*c*) 1.5 km (*d*) 1.5-2 km (*e*) 2-2.5 km

52. Which of the following possibilities would make two roads coincide ?
(*a*) L is $\frac{1}{2}$ km north of I. (*b*) C is 1 km west of D.
(*c*) I is $\frac{1}{2}$ km north of K. (*d*) D is $\frac{1}{2}$ km east of A.
(*e*) E and B are $\frac{1}{2}$ km apart.

53. If K is parallel to I and K is $\frac{1}{2}$ km south of J and 1 km north of G, which two roads would be $\frac{1}{2}$ km apart ?

(*a*) I and K (*b*) J and G (*c*) I and G (*d*) J and H (*e*) K and J

Directions (*Questions 54 to 58*) : *Read the following information carefully and answer the questions given below it :* **(M.A.T. 1997)**

Seven friends Kamla, Manish, Rohit, Amit, Gaurav, Pritam and Priya are sitting in a circle. Kamla, Manish, Rohit, Amit, Pritam and Priya are sitting at equal distances from each other.

Rohit is sitting two places right of Pritam, who is sitting one place right of Amit. Kamla forms an angle of 90 degrees from Gaurav and an angle of 120 degrees from Manish. Manish is just opposite Priya and is sitting on the left of Gaurav.

54. Who is the only person sitting between Rohit and Manish ?

(*a*) Pritam (*b*) Amit (*c*) Gaurav (*d*) Kamla

55. Gaurav is not sitting at equal distances from

(*a*) Rohit and Pritam (*b*) Amit and Kamla

(*c*) Manish and Pritam (*d*) All of the above

56. Gaurav is sitting ..... of Priya.

(*a*) to the left (*b*) to the right (*c*) two places right (*d*) None of these

57. The angle between Gaurav and Manish in the clockwise direction is

(*a*) 150° (*b*) 180° (*c*) 210° (*d*) None of these

58. Which of the following statements is not correct ?

(*a*) Pritam is between Manish and Kamla.

(*b*) Manish is two places away from Priya.

(*c*) Gaurav is sitting opposite Pritam.

(*d*) All of the above

ANSWERS

1. (*d*) : Shikha is to the left of Reena and Manju is to her right. Rita is between Reena and Manju. So, the order is : Shikha, Reena, Rita, Manju. In the photograph, Rita will be second from left.

2. (*a*) : B is to the right of D. A is to the right of B. E is to the right of A and left of C. So, the order is : D, B, A, E, C.

Clearly, A is in the middle.

3. (*b*) : Q is left to R and to the right of P *i.e.* P, Q, R.

O is to the right of N and left of P *i.e.* N, O, P.

S is to the right of R and left of T *i.e.* R, S, T.

So, the order is : N, O, P, Q, R, S, T.

Clearly, Q is in the middle.

4. (*d*) : S is sitting next to P. So, the order S, P or P, S is followed. K is sitting next to R. So, the order R, K is followed because R is on the extreme left. T is not next to P or K.

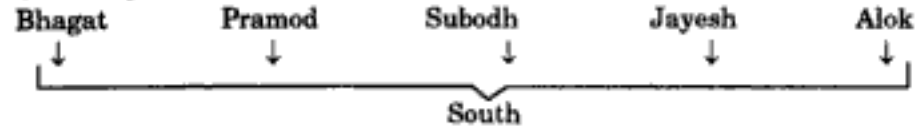
So, the arrangement will be R, K, P, S, T.

Clearly, P and T are sitting adjacent to S.

5. (*a*) : Clearly, the order is : Anuradha, Rashi, Monika, Sulekha, Abha. Anuradha is adjacent to Rashi.

Questions 6 to 8

Note : The boys are standing facing south. So, consider 'left' and 'right' accordingly.
Jayesh is to the right of Alok *i.e.* J, A.
Pramod is between Bhagat and Subodh *i.e.* B, P, S.
Subodh is between Jayesh and Pramod.
So, the sequence is :



6. (*a*) : Alok is at the extreme left end.
7. (*d*) : Subodh is in the middle.
8. (*b*) : Statement (A) is superfluous.
9. (*d*) : D is on the left of C *i.e.* C, D.
B is on the right of E *i.e.* B, E.
A is on the right of C *i.e.* A, C.
B is on the left of D *i.e.* D, B.
From the above statements, the correct order is : A, C, D, B, E.
Clearly, D is sitting in the centre.
Note : It is given that A, B, C, D, E are sitting facing you. So, your right and left will be considered as left and right respectively.

Questions 10 to 14

C is to the right of D.
D is third from south. So, B will be at the extreme end from north because it should have E as its neighbour. G is between E and F. So, the sequence is :

B →
E →
G →
F → East
D →
C →
A →

10. (*e*) : G is sitting to the right of E.
11. (*a*) : A and B are sitting at the extreme ends.
12. (*c*) : G should change place with C to make it third from north.
13. (*d*) : D is sitting between C and F.
14. (*d*) : All the statements are required to determine the correct sequence.
15. (*a*) : Clearly, the correct sequence is :
France, America, India, Australia, Japan, China.
The two flags in the centre are of India and Australia.
16. (*b*) : Clearly, C and D sit opposite to each other. So, if A sits opposite to cook, B shall be the cook.
Now, B is to the right of barber. So, one of the rest, say C will be barber. Clearly, then D on the opposite side shall be washerman or tailor. But, washerman is left of tailor and D is to the left of A. So, D is washerman and A is tailor. Thus, A and B are Tailor and Cook.
17. (*c*) : Mr. X is on the right of Mr. Y and on the left of person in the centre *i.e.* Y, X, —
Mr. P is on the right of Mr. Z and Mr. R is on the right of Mr. P *i.e.* Z, P, R.
R is second from the person sitting in the centre.
So, the order is Y, X, Z, P, R. Clearly, Z is sitting in the centre.

Questions 18 to 22

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 the immediate neighbour 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 orders may be combined to obtain the correct order as under :

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

18. (*d*) : I is in the middle.

19. (*b*) : C, H, D, F are to the right of G.

20. (*c*) : B is sitting between J and I.

21. (*e*) : All the statements are needed to determine the correct sequence.

22. (*c*) : The new sequence formed on interchanging seats is :

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

D and K are sitting at the ends in the new arrangement.

Questions 23 to 27

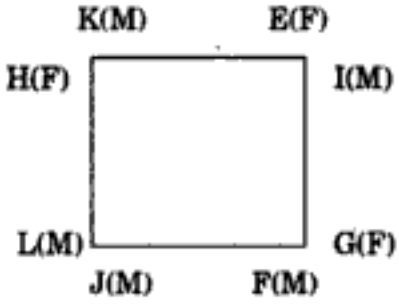
J is between L and F *i.e.* the order is L J F.

G is between I and F *i.e.* the order is F G I.

Thus, the sequence becomes L J F G I.

H is second to the left of J *i.e.* H L J F G I.

Writing the above sequence in form of a square table, we have :



M = Male,
F = Female

E is seated opposite F. Since G is between F and I, so G is a female member.

23. (*e*) : K is seated between E and H.

24. (*c*) : Three persons — H, L and J are seated between K and F.

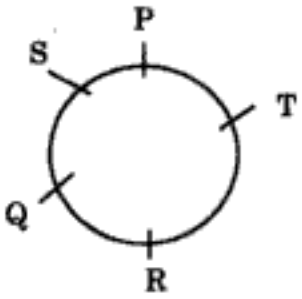
25. (*b*) : The three lady members are E, H and G.

26. (*c*) : J is to the immediate left of F.

27. (*a*) : Clearly, J is a male member.

Questions 28-29

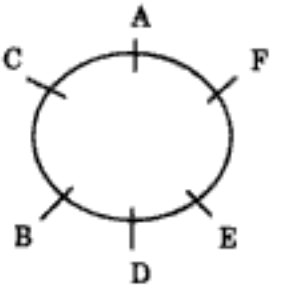
Clearly, in the circle the arrangement is as shown :



28. (*b*) : Q is to the immediate left of R.

29. (*a*) : All the statements are necessary.

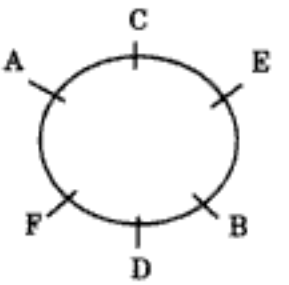
30. (*b*) : Clearly, in a circle the arrangement is as shown.



Thus, C is to the immediate left of B.

Questions 31-32

Clearly, the circular arrangement is as shown :



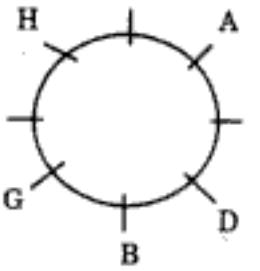
31. (*a*) : Clearly, B is facing A.

32. (*b*) : C is facing D.

Questions 33-34

B is between G and D *i.e.* the order is G B D. H is third to the left of B and second to the right of A.

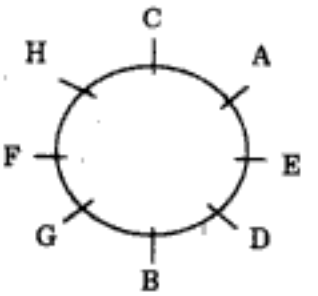
So, forming a circle we have :



C is between A and G. But E is not opposite B.

So, C is between A and H.

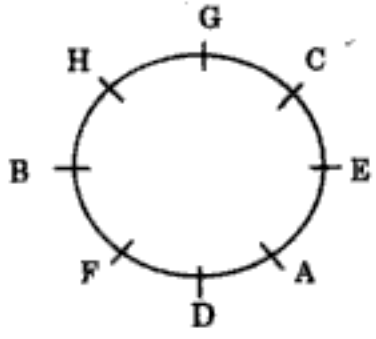
Thus, the final arrangement becomes :



33. (*c*) : F is third to the left of D.

34. (*d*) : Clearly, E is not sitting between F and D.

35. (*d*) : Clearly, in a circle the arrangement is as shown :



H is diagonally opposite to A.

Questions 36 to 38

Sociology is on top of all books. Education is below Sociology. Accountancy is below Education.

Economics is above Psychology and Psychology is above Hindi.

Economics is not in the middle. So, in the middle lies the seventh book *i.e.* English.

Thus, the sequence from top to bottom is :

Sociology, Education, Accountancy, English, Economics, Psychology, Hindi.

36. (*c*) : Economics is between English and Psychology.

37. (*a*) : There are three books between Accountancy and Hindi — English, Economics, Psychology.

38. (*c*) : The new sequence formed on interchanging places is English, Psychology, Hindi, Sociology, Economics, Education, Accountancy.

Clearly, Hindi is between Psychology and Sociology.

39. (*d*) : Jam bottles are at the top.

Biscuits are below chips, chocolates are below biscuits, peppermints are below chocolates and cakes are at the bottom.

So, the sequence from top to bottom is :

Jam bottles, Chips, Biscuits, Chocolates, Peppermint, Cakes.

40. (*b*) : Clearly, the sequence is : novel, drama, story-book, comic *i.e.* ndsc.

Questions 41-42

Clearly, the sequence of the five books mentioned, from top to bottom is :

——, History, Civics, Geography, English, Economics, ——

41. (*c*) : Clearly, (*c*) gives us the clue that Science book is placed at the bottom. Thus, we know that there are three books between Civics and Science.

42. (*e*) : Clearly, History, Civics and Geography are three books kept above English. To find this, no information other than the given ones is required.

43. (*b*) : Starting from above, English is between History and Mathematics *i.e.*, H, E, M.

History is between Mathematics and English *i.e.*, H, E, M, H, E.

Hindi is between English and Mathematics *i.e.*, H, E, M, H, E, Hi, M.

Mathematics is between two Hindi books *i.e.*, H, E, M, H, E, Hi, M, Hi.

Two Hindi books are between Mathematics and History *i.e.*, H, E, M, H, E, Hi, M, Hi, Hi, H. Clearly, Hindi book is at sixth position from top.

Questions 44 to 48

We analyse the given information as follows :

Arranging the cars from left to right as per the information, we have :

Fargo and Cardilac

Fiat, Car, Car, Car, Fargo

Maruti between Ambassador and Bedford.

Fiat, Car, Car, Ambassador.

Knowing that Fiat lies at one of the ends, we have from left to right :

1	2	3	4	5	6	7
Fiat	Bedford	Maruti	Ambassador	Fargo	Cardilac	Mercedes

44. (*d*) : Clearly, Maruti is in the third place and Mercedes in the seventh *i.e.* Mercedes is fourth to the right of Maruti.

45. (*b*) : Clearly, the Cardilac on the sixth place, is to the immediate left of the Mercedes, on the seventh place.

46. (*e*) : On either side of the Cardilac are the Fargo and the Mercedes.

47. (*a*) : Clearly, Maruti in the third place, is to the immediate left of Ambassador, in the fourth place.

48. (*c*) : To the right of the Ambassador are the Fargo, Cardilac and Mercedes.

Questions 49 to 53

Clearly from statements (1) and (2), figure 1 follows; from statement (3), figure 2 follows; from statement (4), figure 3 follows; and from statement (5), figure 4 follows; and from statements (6) and (7), figure 5 follows.

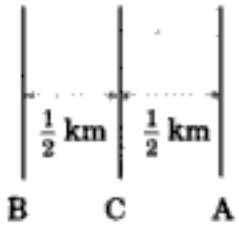


Fig. 1

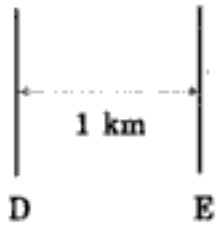


Fig. 2

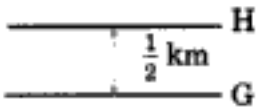


Fig. 3

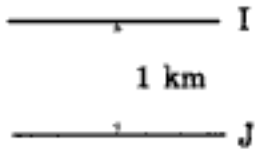


Fig. 4

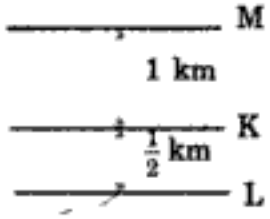
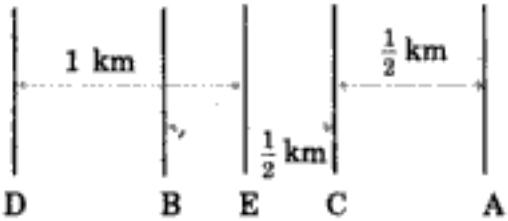


Fig. 5

49. (*d*) : It follows from figure 5 that distance of M from L = LK + KM = $\frac{1}{2}$ + 1 = 1.5 km and M is to the north of L.

50. (*b*) : If E is between B and C, we will have the following figure :



Thus, the statement that D is 2 km west of B is false.

51. (*d*) : From the figure in Q. 50, the distance between A and D

$= AB + ED - BE = \left(1 + 1 - \frac{1}{4}\right) = 2 - .25$ *i.e.* between 1.5 to 2 km.

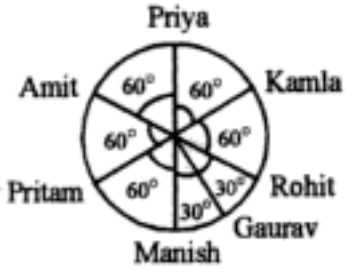
52. (*e*) : Clearly seeing the figure in Q. 50, we find that if E and B are 1/2 km apart, there is a possibility that E coincides with C.

53. (*e*) : Clearly as per the information combined with figures 3 and 4, the figure is as shown. The two roads J and K, K and H and H and G are 1/2 km apart. So, the answer is K and J.

I
J
K
H
G

Questions 54 to 58

Clearly in a circle the arrangement is as shown :



54. (*c*) : Gaurav is sitting between Rohit and Manish.

55. (*d*) : Gaurav is not at equal distances from Rohit and Pritam or Amit and Kamla or Manish and Pritam.

56. (*d*) : Gaurav is three places left or four places right of Priya.

57. (*d*) : The angle between Gaurav and Manish in clockwise direction is 30°.

58. (*d*) : Clearly, all the statements follow from the diagram above.

TYPE 3 : COMPARISON TYPE QUESTIONS

In such type of questions, clues are given regarding comparisons among a set of persons or things with respect to one or more qualities. The candidate is required to analyse the whole information, form a proper ascending/descending sequence and then answer the given questions accordingly.

Ex. 1. ***Read the following information and answer the questions given below it :***

There are five friends — Sachin, Kunal, Mohit, Anuj and Rohan.
Sachin is shorter than Kunal but taller than Rohan.
Mohit is the tallest.
Anuj is a little shorter than Kunal and little taller than Sachin.

1. Who is the shortest ?
(*a*) Rohan (*b*) Sachin (*c*) Anuj (*d*) Kunal (*e*) None of these

2. If they stand in the order of their heights, who will be in the middle ?
(*a*) Kunal (*b*) Rohan (*c*) Sachin (*d*) Anuj (*e*) None of these

3. If they stand in the order of increasing heights, who will be the second ?
(*a*) Anuj (*b*) Sachin (*c*) Rohan (*d*) Kunal (*e*) None of these

4. Who is the second tallest ?
(*a*) Sachin (*b*) Kunal (*c*) Anuj (*d*) Rohan (*e*) None of these

5. Who is taller than Anuj but shorter than Mohit ?
(*a*) Kunal (*b*) Rohan (*c*) Sachin
(*d*) Data inadequate (*e*) None of these

Solution : Let us denote the five boys by the first letter of their names, namely S, K, M, A and R.

Then, $R < S < K < M$ and $S < A < K$.

$\therefore$ $R < S < A < K < M$

1. (*a*) : Rohan is shortest.

2. (*d*) : Anuj is in the middle.

3. (*b*) : In the order of increasing heights *i.e.* shortest to tallest, Sachin is second.

4. (*b*) : Kunal is second tallest.

5. (*a*) : Kunal is taller than Anuj but shorter than Mohit.

Ex. 2. Read the information given below and answer the questions that follow :

(*i*) There is a group of five girls.

(*ii*) Kamini is second in height but younger than Rupa.

(*iii*) Pooja is taller than Monika but younger in age.

(*iv*) Rupa and Monika are of the same age but Rupa is tallest between them.

(*v*) Neelam is taller than Pooja and elder to Rupa. **(Bank P.O. 1996)**

1. If they are arranged in the ascending order of height, who will be in third position ?

(*a*) Monika (*b*) Rupa (*c*) Monika or Rupa

(*d*) Data inadequate (*e*) None of these

2. If they are arranged in the descending order of their ages, who will be in fourth position ?

(*a*) Monika or Rupa (*b*) Kamini (*c*) Monika

(*d*) Data inadequate (*e*) None of these

3. To answer the question "who is the youngest person in the group", which of the given statements is superfluous ?

(*a*) Only (*i*) (*b*) Only (*ii*) (*c*) Only (*v*)

(*d*) Either (*i*) or (*iv*) (*e*) None of these

Solution : We first find the sequence of heights :

By (*iii*), we have : $M < P$.

By (*v*), we have : $P < N$.

Now, Rupa is tallest and Kamini is second in height.

So, the sequence of heights is : $M < P < N < K < R$.

Now, we determine the age sequence :

By (*ii*), we have : $K < R$.

By (*iii*), we have : $P < M$.

By (*iv*), we have : $R = M$.

By (*v*), we have : $R < N$.

So, the sequence of ages is : $N < R = M < K < P$ or $N < R = M < P < K$.

1. Clearly, in the increasing order of height, Neelam is in third position.

Hence, the answer is (*e*).

2. Clearly, in the descending order of ages, Neelam will be in fourth position (because Monika and Rupa both lie at third position).

Hence, the answer is (*e*).

3. Clearly, only statement (*i*) is not necessary.

Hence, the answer is (*a*).

EXERCISE 6C

1. Compare the knowledge of persons X, Y, Z, A, B and C in relation to each other :
1. X knows more than A.
2. Y knows as much as B.
3. Z knows less than C.
4. A knows more than Y.

The best knowledgeable person amongst all is : **(S.C.R.A. 1996)**

(*a*) X (*b*) Y (*c*) A (*d*) C

2. Five children were administered psychological tests to know their intellectual levels. In the report, psychologists pointed out that the child A is less intelligent than the child B. The child C is less intelligent than the child D. The child B is less intelligent than the child C and child A is more intelligent than the child E. Which child is the most intelligent ? **(Bank P.O. 1996)**

(*a*) A (*b*) B (*c*) D (*d*) E (*e*) None of these

3. Among five boys, Vineet is taller than Manick, but not as tall as Ravi. Jacob is taller than Dilip but shorter than Manick. Who is the tallest in their group ?

(*a*) Ravi (*b*) Manick (*c*) Vineet
(*d*) Cannot be determined (*e*) None of these **(NABARD, 1994)**

4. If (*i*) P is taller than Q; (*ii*) R is shorter than P; (*iii*) S is taller than T but shorter than Q, then who among them is the tallest ? **(B.S.R.B. 1995)**

(*a*) P (*b*) Q (*c*) S (*d*) T (*e*) Can't be determined

5. Five boys participated in a competition. Rohit was ranked lower than Sanjay. Vikas was ranked higher than Dinesh. Kamal's rank was between Rohit and Vikas. Who was ranked highest ?

(*a*) Sanjay (*b*) Vikas (*c*) Dinesh (*d*) Kamal (*e*) None of these

6. In an examination, Raj got more marks than Mukesh but not as many as Priya. Priya got more marks than Gaurav and Kavita. Gaurav got less marks than Mukesh but his marks are not the lowest in the group. Who is second in the descending order of marks ? **(Bank P.O. 1997)**

(*a*) Priya (*b*) Kavita (*c*) Raj
(*d*) Cannot be determined (*e*) None of these

7. Ashish is heavier than Govind. Mohit is lighter than Jack. Pawan is heavier than Jack but lighter than Govind. Who among them is the heaviest ? **(Bank P.O. 1995)**

(*a*) Govind (*b*) Jack (*c*) Pawan (*d*) Ashish (*e*) Mohit

8. Pune is bigger than Jhansi, Sitapur is bigger than Chittor. Raigarh is not as big as Jhansi, but is bigger than Sitapur. Which is the smallest ? **(Railways, 1994)**

(*a*) Pune (*b*) Jhansi (*c*) Sitapur (*d*) Chittor

9. Rohan is taller than Anand but shorter than Seema. Krishna is taller than Pushpa but shorter than Anand. Dhiraj is taller than Krishna but shorter than Seema. Who among them is the tallest ? **(B.S.R.B. 1996)**

(*a*) Rohan (*b*) Seema (*c*) Krishna
(*d*) Cannot be determined (*e*) None of these

Directions (*Questions 10-11*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1994)**

(A) Gopal is shorter than Ashok but taller than Kunal;
(B) Navin is shorter than Kunal;
(C) Jayesh is taller than Navin;
(D) Ashok is taller than Jayesh.

10. Who among them is the tallest ?
(*a*) Gopal (*b*) Ashok (*c*) Kunal (*d*) Navin (*e*) Jayesh

11. Which of the given informations is not necessary to answer the above question ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) None of these

12. B is twice as old as A but twice younger than F.
C is half the age of A but twice the age of D.
Which two persons form the pair of oldest and youngest ?
(*a*) F and A (*b*) F and D (*c*) B and F
(*d*) F and C (*e*) None of these

13. Sudhanshu is as much older than Kokila as he is younger than Praveen. Nitin is as old as Kokila. Which of the following statements is wrong ? **(Bank P.O. 1995)**
(*a*) Kokila is younger than Praveen. (*b*) Nitin is younger than Praveen.
(*c*) Sudhanshu is older than Nitin. (*d*) Praveen is not the oldest.
(*e*) Kokila is younger than Sudhanshu.

14. A is elder to B while C and D are elder to E who lies between A and C. If C be elder to B, which one of the following statements is necessarily true ?
(*a*) A is elder to C (*b*) C is elder to D
(*c*) D is elder to C (*d*) E is elder to B
(Hotel Management, 1995)

15. Hitesh is richer than Jaya whereas Mohan is richer than Pritam. Lalit is as rich as Jaya. Amit is richer than Hitesh. What conclusion can be definitely drawn from the above statements ? **(Hotel Management, 1996; Asstt. Grade, 1995)**
(*a*) Jaya is poorer than Pritam. (*b*) Mohan is richer than Amit.
(*c*) Lalit is poorer than Hitesh. (*d*) Pritam is richer than Lalit.

Directions (*Questions 16 to 21*) : *Study the following information and answer the questions given below it :*

A blacksmith has five iron articles A, B, C, D and E, each having a different weight.

(*i*) A weighs twice as much as B.
(*ii*) B weighs four and a half times as much as C.
(*iii*) C weighs half as much as D.
(*iv*) D weighs half as much as E.
(*v*) E weighs less than A but more than C.

16. Which of the following is the lightest in weight ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) E

17. E is lighter in weight than which of the other two articles ?
(*a*) A, B (*b*) D, C (*c*) A, C (*d*) D, B (*e*) B, E

18. E is heavier than which of the following two articles ?
(*a*) D, B (*b*) D, C (*c*) A, C (*d*) A, B (*e*) None of these

19. Which of the following articles is the heaviest in weight ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) E

20. Which of the following represents the descending order of weights of the articles ?
(*a*) A, B E, D, C (*b*) B, D, E, A, C (*c*) E, C, D, A, B
(*d*) C, A, D, B, E (*e*) A, B, D, E, C

21. Which of the above given statements is not necessary to determine the correct order of articles according to their weights ?
(*a*) 1 (*b*) 2 (*c*) 3 (*d*) 4 (*e*) 5

Directions (*Questions 22 to 26*) : *Read the following information and answer the questions given below it :*

(*i*) Seven students P, Q, R, S, T, U and V take a series of tests.
(*ii*) No two students get similar marks.
(*iii*) V always scores more than P.
(*iv*) P always scores more than Q.
(*v*) Each time either R scores the highest and T gets the least, or alternatively S scores the highest and U or Q scores the least.

22. If S is ranked sixth and Q is ranked fifth, which of the following can be true ?
(*a*) V is ranked first or fourth. (*b*) R is ranked second or third.
(*c*) P is ranked second or fifth. (*d*) U is ranked third or fourth.
(*e*) T is ranked fourth or fifth.

23. If R gets most, V should be ranked not lower than :
(*a*) second (*b*) third (*c*) fourth (*d*) fifth (*e*) sixth

24. If R is ranked second and Q is ranked fifth, which of the following must be true ?
(*a*) S is ranked third. (*b*) T is ranked sixth. (*c*) P is ranked sixth.
(*d*) V is ranked fourth. (*e*) U is ranked sixth.

25. If S is ranked second, which of the following can be true ?
(*a*) U gets more than V. (*b*) V gets more than S. (*c*) P gets more than R.
(*d*) P gets more than V. (*e*) T gets more than Q.

26. If V is ranked fifth, which of the following must be true ?
(*a*) S scores the highest. (*b*) R is ranked second. (*c*) T is ranked third.
(*d*) Q is ranked fourth. (*e*) U scores the least.

Directions (*Questions 27 to 31*) : *Study the information given below and answer the questions that follow :* **(Bank P.O. 1995)**

(*i*) A, B, C, D, E and F are six students in a class.
(*ii*) B and C are shorter than F but heavier than A.
(*iii*) D is heavier than B and taller than C.
(*iv*) E is shorter than D but taller than F.
(*v*) F is heavier than D.
(*vi*) A is shorter than E but taller than F.

27. Who among them is the tallest ?
(*a*) A (*b*) B (*c*) D (*d*) E (*e*) None of these

28. Who is third from the top when they are arranged in descending order of height ?
(*a*) A (*b*) B (*c*) C (*d*) E (*e*) None of these

29. Which of the following groups of friends is shorter than A ?
(*a*) B, C only (*b*) D, B, C only (*c*) E, B, C only
(*d*) F, B, C, only (*e*) None of these

30. Who among them is the lightest ?
(*a*) A (*b*) B (*c*) C (*d*) B or C (*e*) Data inadequate

31. Which of the following statements is true for F as regards height and weight ?
(*a*) He is lighter than E and taller than E.
(*b*) He is heavier than B and taller than E.
(*c*) He is heavier than B and C but shorter than D.
(*d*) He is lighter than E and also shorter than E.
(*e*) He is lighter than B and C but taller than D.

Directions (*Questions 32 to 36*) : *Read the following information carefully and answer the questions given below it :*

(*i*) A, B, C, D and E are five friends.
(*ii*) B is elder to E, but not as tall as C.
(*iii*) C is younger to A, and is taller to D and E.
(*iv*) A is taller to D, but younger to E.
(*v*) D is elder to A but is shortest in the group.

32. Who among the following is the eldest ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) None of these

33. Which of the following pairs of students is elder to D ?
(*a*) BA (*b*) BC (*c*) BE (*d*) EA (*e*) None of these

34. Which of the following statements is correct about B ?
(*i*) B is not the tallest.
(*ii*) B is shorter to E.
(*iii*) When they are asked to stand in ascending order with respect to their heights, B is in the middle.
(*a*) Only (*i*) is correct (*b*) Only (*i*) and (*ii*) are correct (*c*) All are correct
(*d*) All are incorrect (*e*) None of these

35. If F, another friend, is taller than C, how many of them will be between F and E according to their height ?
(*a*) None (*b*) One (*c*) Two (*d*) Three (*e*) None of these

36. If a selection is to be made among them who would be relatively older and also taller, who among them should be chosen ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) E

Directions (*Questions 37 to 41*) : *Study the given information carefully and answer the questions that follow :* **(Bank P.O. 1994)**

(*i*) Six friends P, Q, R, S, T and U are members of a club and play a different game of Football, Cricket, Tennis, Basketball, Badminton and Volleyball.
(*ii*) T who is taller than P and S plays Tennis.
(*iii*) The tallest among them plays Basketball.
(*iv*) The shortest among them plays Volleyball.
(*v*) Q and S neither play Volleyball nor Basketball.
(*vi*) R plays Volleyball.
(*vii*) T is between Q who plays Football and P in order of height.

37. Who among them is taller than R but shorter than P ?
(*a*) Q (*b*) T (*c*) U (*d*) Data inadequate (*e*) None of these

38. Who will be at the third place if they are arranged in the descending order of their height ?
(*a*) Q (*b*) P (*c*) S (*d*) T (*e*) None of these

39. Which of the following statements is not true ?
(*a*) P is shorter than R. (*b*) Q is taller than S. (*c*) S is taller than R.
(*d*) T is taller than R. (*e*) U is taller than Q.

40. Who among them plays Basketball ?
(*a*) Q (*b*) R (*c*) S (*d*) U (*e*) None of these

41. What does S play ?
(*a*) Cricket (*b*) Badminton (*c*) Football
(*d*) Either Cricket or Badminton (*e*) None of these

Directions* (*Questions 42-43*) : *Read the following information carefully and answer the questions given below it : **(Bank P.O. 1997)**

At the end of a cricket series, when five players were arranged in the ascending order of runs scored by them, O was fourth while N was first. When they were arranged in descending order for wickets taken by them, K replaces O while O replaces L. M's position remains unchanged. K has scored more runs than M. L is having first rank in one ranking and fifth in another.

42. Who has scored the highest runs in the series ?
(*a*) K (*b*) L (*c*) M (*d*) Can't be determined (*e*) None of these

43. Who has taken the lowest number of wickets ?
(*a*) L (*b*) M (*c*) P (*d*) Can't be determined (*e*) None of these

Directions (*Questions 44-47*) : *Read the information given below and answer the questions that follow :* **(M.B.A. 1997)**

A * B means A and B are of the same age;
A – B means B is younger than A;
A + B means A is younger than B.

44. Sachin * Madan – Reena means
(*a*) Reena is the youngest. (*b*) Reena is the oldest.
(*c*) Madan is younger than Reena. (*d*) None of these

45. X + Y + Z is same as
(*a*) Y – X – Z (*b*) Z – Y – X (*c*) Z – X – Y (*d*) None of these

46. For an expression Farha – Farida – Arif, which of the following cannot be correct under any circumstances ?
(*a*) Arif is the father of Farha.
(*b*) Arif is the younger brother of Farha.
(*c*) Farha is the mother of both Arif and Farida.
(*d*) None of these

47. Deven – Shashi * Hemant is opposite to
(*i*) Hemant + Shashi + Deven (*ii*) Hemant – Shashi + Deven
(*iii*) Shashi * Hemant + Deven
(*a*) (*i*) only (*b*) (*i*) and (*ii*) only (*c*) (*ii*) and (*iii*) only (*d*) None of these

ANSWERS

1. (*a*) : Clearly, we have : $A < X$, $Y = B$, $Z < C$, $Z < B$, $Y < A$.
Thus, the sequence becomes :
$X > A > Y = B > C > Z$.
So, X is the best knowledgeable person.

2. (*c*) : We have : $A < B$, $C < D$, $B < C$ and $E < A$.
So, the sequence becomes : $E < A < B < C < D$.
Clearly, child D is the most intelligent.

3. (*a*) : In terms of height, we have :
Manick < Vineet, Vineet < Ravi, Dilip < Jacob, Jacob < Manick.
So, the sequence becomes :
Dilip < Jacob < Manick < Vineet < Ravi.
Clearly, Ravi is the tallest.

4. (*a*) : In terms of height, we have :
$Q < P$, $R < P$, $T < S$, $S < Q$.
So, the sequence becomes : $T < S < Q < R < P$ or $T < S < R < Q < P$.
Whichever may be the case, P is the tallest.

5. (*a*) : In terms of rank, we have :
Rohit < Sanjay, Dinesh < Vikas.
Since Kamal's rank is between Rohit and Vikas, the sequence becomes :
Dinesh < Vikas < Kamal < Rohit < Sanjay.
Clearly, Sanjay was ranked highest.

6. (*c*) : In terms of marks obtained,
Mukesh < Raj, Raj < Priya, Gaurav < Priya, Kavita < Priya, Gaurav < Mukesh.
Since Gaurav's marks are not the lowest, so Kavita's marks are the lowest.
So, the sequence becomes :
Kavita < Gaurav < Mukesh < Raj < Priya.
Clearly, in the descending order, Raj comes second.

7. (*d*) : In terms of weight, we have :
Govind < Ashish, Mohit < Jack, Jack < Pawan, Pawan < Govind.
So, the sequence becomes :
Mohit < Jack < Pawan < Govind < Ashish.
Clearly, Ashish is the heaviest.

8. (*d*) : In terms of size, we have :
Jhansi < Pune, Chittor < Sitapur, Raigarh < Jhansi, Sitapur < Raigarh.
So, the sequence becomes :
Chittor < Sitapur < Raigarh < Jhansi < Pune.
Clearly, Chittor is the smallest.

9. (*b*) : In terms of height, we have :
Anand < Rohan, Rohan < Seema, Pushpa < Krishna, Krishna < Anand.
Krishna < Dhiraj, Dhiraj < Seema.
So, the sequence becomes :
Pushpa < Krishna < Dhiraj < Anand < Rohan < Seema.
Clearly, Seema is the tallest.

10. (*b*) : In terms of height, we have :
Gopal < Ashok, Kunal < Gopal, Navin < Kunal, Navin < Jayesh, Jayesh < Ashok.

So, the sequence becomes :
Navin < Kunal < Gopal < Jayesh < Ashok.
Clearly, Ashok is the tallest.

11. (*c*) : Clearly, statement C is not necessary.

12. (*b*) : Let A's age be x. Then, B's age is $2x$. B is twice younger than F *i.e.* F is twice older than B. So, F's age is $4x$. C is half the age of A *i.e.* C's age is $\frac{x}{2}$. C is twice the age of D *i.e.* D is half the age of C *i.e.* D's age is $\frac{x}{4}$. So, the descending order of ages is F, B, A, C, D.
Clearly, F is the oldest and D is the youngest.

13. (*d*) : In terms of age, we have :
Kokila < Sudhanshu, Sudhanshu < Praveen, Nitin = Kokila.
So, the sequence becomes :
Nitin = Kokila < Sudhanshu < Praveen.
Clearly, Praveen is the oldest.
Hence, (*d*) is the incorrect statement.

14. (*d*) : In terms of age, we have :
B < A, E < C, E < D, B < C.
Since E lies between A and C, the sequence becomes :
B < A < E < C < D or B < A < E < D < C
Clearly, whichever may be the case, E is elder to B. Hence, (*d*) is necessarily true.

15. (*c*) : In terms of richness, we have :
Jaya < Hitesh, Pritam < Mohan, Lalit = Jaya, Hitesh < Amit.
So, we have : Lalit = Jaya < Hitesh < Amit and Pritam < Mohan.
Clearly, Lalit is poorer than Hitesh.

Questions 16 to 21

Let C's weight be x. Then, D's weight is $2x$. E's weight is $4x$, B's weight is $4.5x$ and A's weight is $9x$.
So, the order of weights can be A > B > E > D > C.

16. (*c*) : C is the lightest in weight.

17. (*a*) : E is lighter in weight than A and B.

18. (*b*) : E is heavier than D and C.

19. (*a*) : Clearly, A is the heaviest in weight.

20. (*a*) : Clearly, the descending order of weights is A, B, E, D, C.

21. (*e*) : Clearly, statement (5) is not required to determine the order of weights.

Questions 22 to 26

In terms of scores, we have :
V > P, P > Q *i.e.* V > P > Q.
If R scores the highest, we have R > ..... > T.
If S scores the highest, we have S > ..... > Q or S > ..... > U.

22. (*d*) : If S is ranked sixth and Q is ranked fifth, we have :
□ > □ > □ > □ > Q > S > □ .
In this case, R will rank the highest and thus T will rank the least. We have :
R > □ > □ > □ > Q > S > T.
Also, the order V > P > Q will be maintained *i.e.*, V and P will have second, third or fourth places. So, statements (*a*), (*b*), (*c*) and (*e*) cannot follow. Thus, (*d*) is the answer.

23. (*c*) : Again, if R ranks most, T ranks lowest and occupies seventh place. Since V always ranks above P and Q, so in the maximum, P and Q will occupy fifth and sixth places. Thus, V will not rank lower than fourth.

24. (*b*) : If R is ranked second, S will rank first and Q and U lowest. But Q ranks fifth. So, U ranks lowest. Also, the order V > P > Q will be followed.

So, the arrangement will be S > R > V > P > Q > □ > U. Thus, the sixth place will be occupied by T.

25. (*a*) : If S ranks second, R ranks first and T ranks lowest. The order V > P > Q will be followed. So, the arrangement will be R > S > □ > □ > □ > □ > T.

Clearly, statements (*b*), (*c*), (*d*) and (*e*) cannot follow. So, the answer is (*a*).

26. (*a*) : If V ranks fifth, P and Q coming before it will occupy sixth and seventh places respectively *i.e.* Q ranks least. So, S will score the highest.

Questions 27 to 31

In terms of height, we have :

B < F, C < F, C < D, E < D, F < E, A < E, F < A.

So, C < F < E < D, B < F, F < A < E

Thus, the sequence becomes :

B < C < F < A < E < D or C < B < F < A < E < D.

In terms of weight, we have :

A < B, A < C, B < D, D < F.

So, A < B < D < F, A < C.

Thus, the sequence becomes :

A < C < B < D < F or A < B < C < D < F or A < B < D < C < F.

27. (*c*) : Clearly, D is the tallest.

28. (*a*) : The descending order of height is :

D > E > A > F > B > C or D > E > A > F > C > B.

Clearly, A is third from the top.

29. (*d*) : Clearly, F, B and C are shorter than A.

30. (*e*) : Data is inadequate as no clue regarding E's weight is given.

31. (*c*) : Clearly F is heavier than B and C but shorter than D.

Questions 32 to 36

In terms of age, we have :

E < B, C < A, A < E, A < D

So, we have : C < A < E < B, A < D.

In terms of height, we have :

B < C, D < C, E < C, D < A.

32. (*e*) : Either B or D is the eldest.

33. (*e*) : It cannot be determined for sure.

34. (*a*) : B is shorter than C. So, B is not the tallest. Thus, (*i*) is correct.

B and E are shorter than C. So, it cannot be concluded that B is shorter to E. Thus, (*ii*) is incorrect.

A single definite order of heights cannot be obtained from the given information. So, (*iii*) is incorrect.

35. (*e*) : Since no definite order of height can be obtained, so it cannot be determined for sure how many persons lie between F and E.

36. (*b*) : A and C are youngest so they cannot be selected. D is shorter than two persons A and C.

B is shorter than C only and is also relatively older. So, B will be selected.

E is younger than B.

Questions 37 to 41

In terms of height, we have

T > P, T > S, Q > T > P.

R plays Volleyball, so R is the shortest.

Q plays neither Volleyball nor Basketball.

So, Q is not the tallest. Thus, U is the tallest.

So, the sequence becomes : U > Q > T > P > S > R.

Now, T plays Tennis. U, being tallest, plays Basketball. R plays Volleyball. Q plays Football. Both P and S play either Cricket or Badminton.

37. (*e*) : S is taller than R but shorter than P.

38. (*d*) : The descending order of height is U, Q, T, P, S, R.

Clearly, T is at the third place.

39. (*a*) : Clearly, P is taller than R.

40. (*d*) : U plays Basketball.

41. (*d*) : S plays either Cricket or Badminton.

Questions 42-43

In terms of runs scored, we have the ascending order as N < □ < □ < O < □ .

N has the first rank. So, L will be fifth in this order *i.e.*, N < □ < □ < O < L.

K has scored more runs than M *i.e.*, K > M.

So, the sequence becomes N < M < K < O < L.

In terms of wickets taken, the order becomes : L > M > N > K > O.

42. (*b*) : L has scored the highest runs in the series.

43. (*e*) : O has taken the lowest number of wickets.

44. (*a*) : Sachin * Madan – Reena means Sachin and Madan are of the same age and Reena is younger than Madan. This means that Reena is the youngest.

45. (*b*) : X + Y + Z means X is younger than Y and Y is younger than Z. This can also be written as Z – Y – X.

46. (*a*) : Farha – Farida – Arif means Farida is younger than Farha and Arif is younger than Farida. This means that Arif is younger than Farha. So, Arif cannot be the father of Farha.

47. (*d*) : Deven – Shashi * Hemant means Shashi is younger than Deven, and Shashi and Hemant are of the same age. Thus, Deven is the oldest. Now, the opposite statement would mean : Deven is the youngest.

(*i*) Hemant + Shashi + Deven means Hemant is younger than Shashi, who is younger than Deven. So, Deven is the oldest.

(*ii*) Hemant – Shashi + Deven means Shashi is younger than both Hemant and Deven. Thus, either Hemant or Deven is the oldest, but Deven is not the youngest.

(*iii*) Shashi * Hemant + Deven means Shashi and Hemant are of the same age and Hemant is younger than Deven. So, Deven is the oldest.

TYPE 4 : SEQUENTIAL ORDER OF THINGS

In this type of questions, some clues are given regarding the order of occurrence of certain events. The candidate is required to analyse the given information, frame the right sequence and then answer the questions accordingly.

Ex. 1. Read the following information and answer the questions given below it :

Six plays — A, B, C, D, E and F are to be staged, one on each day from Monday to Saturday. The schedule of the plays is to be in accordance with the following :

(*i*) A must be staged a day before E.
(*ii*) C must not be staged on Tuesday.
(*iii*) B must be staged on the day following the day on which F is staged.
(*iv*) D must be staged on Friday only and should not be immediately preceded by B.
(*v*) E must not be staged on the last day of the schedule.

1. Which of the following plays immediately follows B ?
(*a*) A (*b*) C (*c*) D (*d*) E (*e*) F

2. Which of the following plays is on Monday ?
(*a*) E (*b*) F (*c*) C (*d*) B (*e*) A

3. Play D is between which of the following pairs of plays ?
(*a*) B and E (*b*) E and F (*c*) A and E (*d*) C and E (*e*) C and F

4. Which of the following is the schedule of plays with the order of their staging from Monday ?
(*a*) E, A, B, F, D, C (*b*) A, F, B, E, D, C (*c*) A, F, B, C, D, E
(*d*) F, A, B, E, D, C (*e*) None of these

5. Play C cannot definitely be staged on which of the following days in addition to Tuesday ?
(*a*) Monday (*b*) Wednesday (*c*) Friday (*d*) Thursday (*e*) Saturday

---

Solution : Clearly, D must be staged on Friday. A must be staged before E *i.e.*, order AE must be followed. But E cannot be staged on last day. Also, B must be staged immediately after F *i.e.*, order FB must be followed. But B cannot precede D. So, F and B can be staged on Monday and Tuesday and A and E on Wednesday and Thursday. C, which cannot be staged on Tuesday shall be staged on Saturday. Thus, the order followed will be :

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
F	B	A	E	D	C

1. Clearly, A immediately follows B. So, the answer is (*a*).
2. F will be played on Monday. So, the answer is (*b*).
3. Play D is between E and C. So, the answer is (*d*).
4. Clearly, order of staging of plays is F, B, A, E, D, C. So, the answer is (*e*).
5. C cannot be staged on Friday as well because D has to be staged on that day.

Ex. 2. Read the following information carefully and answer the questions given below it : **(S.B.I.P.O. 1997)**

(*i*) Eight doctors P, Q, R, S, T, U, V and W visit a charitable dispensary every day except on a holiday *i.e.* Monday.
(*ii*) Each doctor visits for one hour from Tuesday to Sunday except Saturday. The timings are 9 a.m. to 1 p.m. and 2 p.m. to 6 p.m.; 1 p.m. to 2 p.m. is lunch break.
(*iii*) On Saturday, it is open only in the morning *i.e.* 9 a.m. to 1 p.m. and each doctor visits for only half an hour.
(*iv*) No other doctor visits the dispensary before doctor Q and after doctor U.
(*v*) Doctor W comes immediately after lunch break and is followed by R.
(*vi*) S comes in the same order as P in the afternoon session.

1. Doctor P visits in between which of the following pairs of doctors ?
(*a*) S and V (*b*) U and W (*c*) R and W
(*d*) R and U (*e*) None of these

2. At what time the visit of doctor R is over on Sunday ?
(*a*) 1 p.m. (*b*) 3 p.m. (*c*) 4 p.m. (*d*) 5 p.m. (*e*) None of these

3. At what time the visit of Doctor T would be over on Saturday ?
(*a*) 10 a.m. (*b*) 11 a.m. (*c*) Either 10 a.m. or 11 a.m.
(*d*) Data inadequate (*e*) None of these

4. If the lunch break and subsequent visiting hours are reduced by 15 minutes, at what time Doctor U is expected to attend the dispensary ?
(*a*) 3.15 p.m. (*b*) 4 p.m. (*c*) 4.15 p.m. (*d*) 4.45 p.m. (*e*) None of these

---

Solution : We first form the sequence of visit using (*iv*), (*v*) and (*vi*).

From (*iv*), we know that Q visits first and U visits last.

From (*v*), we know that W visits first after break and is followed by R.

From (*vi*), we know that P visits after break.

Thus, the sequence of visit after break becomes W R P U

Also, S has the same position in morning session as P in afternoon session. So, sequence of visit before break is Q, T/V, S, V/T.

1. (*d*) : Clearly, P visits between R and U.

2. (*c*) : The time of visit of W is 2 p.m. to 3 p.m., that of doctor R is 3 p.m. to 4 p.m. So, the visit of doctor R is over at 4 p.m.

3. (*c*) : Clearly, T visits either second or fourth. So, the time of visit on Saturday will be either 9.30 a.m. or 10.30 a.m. Thus, T's visit will be over at either 10 a.m. or 11 a.m.

4. (*b*) : Clearly, as mentioned, lunch break will be over and doctor W will visit at 1.45 p.m., doctor R will visit at 2.30 p.m., doctor P will visit at 3.15 p.m. and U will visit at 4 p.m.

EXERCISE 6D

1. Five boys took part in a race. Raj finished before Mohit but behind Gaurav. Ashish finished before Sanchit but behind Mohit. Who won the race ?
(*a*) Raj (*b*) Gaurav (*c*) Mohit (*d*) Ashish
(I. Tax & Central Excise, 1995)

Directions : ***Questions 2-3 are based on the following information :***

Five men A, B, C, D and E read a newspaper. The one who reads first gives it to C. The one who reads last had taken from A. E was not the first or last to read. There were two readers between B and A.

2. B passed the newspaper to whom ?
(*a*) A (*b*) C (*c*) D (*d*) E (*e*) None of these

3. Who read the newspaper last ?
(*a*) A (*b*) B (*c*) C (*d*) D (*e*) None of these

Directions : ***Read the following information carefully and answer questions 4-5 based on it.*** **(Bank P.O. 1997)**

Seven executives P, Q, R, S, T, U and W reach office in a particular sequence. U reaches immediately before P but does not immediately follow S. R is the last one to reach office. T follows immediately after P and is subsequently followed by W.

4. Among the executives, who reaches the office first ?
(*a*) Q (*b*) S (*c*) U (*d*) Can't be determined (*e*) None of these

5. Who ranks fourth in the sequence of reaching office ?
(*a*) W (*b*) U (*c*) T (*d*) Can't be determined (*e*) None of these

Directions (*Questions 6 to 10*) : *Read the following information carefully and answer the questions that follow :* **(S.B.I.P.O. 1994)**

Six lectures A, B, C, D, E and F are to be organised in a span of seven days — from Sunday to Saturday, only one lecture on each day in accordance with the following :

(*i*) A should not be organised on Thursday.
(*ii*) C should be organised immediately after F.
(*iii*) There should be a gap of two days between E and D.
(*iv*) One day there will be no lecture (Friday is not that day), just before that day D will be organised.
(*v*) B should be organised on Tuesday and should not be followed by D.

6. On which day there is no lecture ?
(*a*) Monday (*b*) Friday (*c*) Sunday
(*d*) Cannot be determined (*e*) None of these

7. How many lectures are organised between C and D ?
(*a*) None (*b*) One (*c*) Two (*d*) Three (*e*) None of these

8. Which day will the lecture F be organised ?
(*a*) Thursday (*b*) Friday (*c*) Saturday
(*d*) Sunday (*e*) None of these

9. Which of the following is the last lecture in the series ?
(*a*) A (*b*) B (*c*) C (*d*) Cannot be determined (*e*) None of these

10. Which of the following informations is not required in finding the complete sequence of organisation of lectures ?
(*a*) (*i*) only (*b*) (*ii*) only (*c*) (*i*) and (*ii*) only
(*d*) (*v*) only (*e*) All are required

Directions (*Questions 11 to 15*) : *Read the following information to answer the given questions :* **(Bank P.O. 1996)**

The Director of the Institute has announced that six guest lectures on different areas like Leadership, Decision Making, Quality Circles, Motivation, Assessment Centre and Group Discussion are to be organised only one on each day from Monday to Sunday.

(*i*) Motivation should be organised immediately after Assessment Centre.
(*ii*) Quality Circle should be organised on Wednesday and should not be followed by Group Discussion.
(*iii*) Decision Making should be organised on Friday and there should be a gap of two days between Leadership and Group Discussion.
(*iv*) One day there will be no lecture (Saturday is not that day), just before that day Group Discussion will be organised.

11. Which of the pairs of lectures were organised on first and last day ?
(*a*) Quality Circle & Motivation (*b*) Group Discussion & Quality Circle
(*c*) Group Discussion & Decision Making (*d*) Leadership & Assessment Centre
(*e*) None of these

12. How many lectures are organised between Motivation and Quality Circle ?
(*a*) One (*b*) Two (*c*) Three (*d*) Four (*e*) None of these

13. Which day will the lecture on Leadership be organised ?
(*a*) Tuesday (*b*) Wednesday (*c*) Friday
(*d*) Saturday (*e*) None of these

14. On which day there is no lecture ?
(*a*) Sunday (*b*) Monday (*c*) Tuesday
(*d*) Wednesday (*e*) None of these

15. Which of the following informations is not required for the above lecture arrangements ?
(*a*) Only (*i*) (*b*) Only (*ii*) (*c*) Only (*iii*)
(*d*) Only (*iv*) (*e*) All are required

Directions (*Questions 16 to 20*) : *Study the following information and answer the questions given below it :*

A training college has to conduct a refresher course for teachers of seven different subjects — Mechanics, Psychology, Philosophy, Sociology, Economics, Science and Engineering from 22nd July to 29th July.

(*i*) Course should start with Psychology.
(*ii*) 23rd July, being Sunday, should be holiday.
(*iii*) Science subject should be on the previous day of the Engineering subject.
(*iv*) Course should end with Mechanics subject.
(*v*) Philosophy should be immediately after the holiday.
(*vi*) There should be a gap of one day between Economics and Engineering.

16. The refresher course will start with which one of the following subjects ?
(*a*) Psychology (*b*) Mechanics (*c*) Philosophy
(*d*) Economics (*e*) None of these

17. Which subject will be on Tuesday ?
(*a*) Mechanics (*b*) Engineering (*c*) Economics
(*d*) Psychology (*e*) None of these

18. Which subject precedes Mechanics ?
(*a*) Economics (*b*) Engineering (*c*) Philosophy
(*d*) Psychology (*e*) None of these

19. How many days' gap is there between Science and Philosophy ?
(*a*) One (*b*) Two (*c*) Three (*d*) No gap (*e*) None of these

20. Which subject is followed by Science ?
(*a*) Engineering (*b*) Psychology (*c*) Philosophy
(*d*) Economics (*e*) None of these

Directions (*Questions 21 to 23*) : *Read the following information carefully and answer the questions that follow :* **(Bank P.O. 1995)**

Five plays A, B, C, D and E are to be staged from Monday to Friday of a week. On each day, only one play will be staged. D or E should not be either the first or last to be staged. E should be immediately followed by C. B should be staged immediately after D. One play is staged between A and B.

21. Which is the first play to be staged ?
(*a*) A (*b*) B (*c*) C
(*d*) Cannot be determined (*e*) None of these

22. Which of the following is the correct sequence of staging all the plays ?
(*a*) A D B C E (*b*) A E C D B (*c*) B D A E C
(*d*) D B E C A (*e*) None of these

23. Which play was staged on Wednesday ?
(*a*) A (*b*) B (*c*) Either B or C
(*d*) Cannot be determined (*e*) None of these

Directions (*Questions 24 to 28*) : *Study the following information carefully and answer the questions given below it :*

A sales representative plans to visit each of six companies M, N, P, Q, R and S exactly once during the course of one day. She is setting up her schedule for the day according to the following conditions :

(*i*) She must visit M before N and R.
(*ii*) She must visit N before Q.
(*iii*) The third company she visits must be P.

24. Which of the following must be true of the sales representative's schedule ?
(*a*) She visits M before Q. (*b*) She visits N before R.
(*c*) She visits P before M. (*d*) She visits P before S.
(*e*) She visits Q before R.

25. If the sales representative visits S first, which company must she visit second ?
(*a*) M (*b*) N (*c*) P (*d*) Q (*e*) R

26. The sales representative could visit any of the following companies immediately after P except :
(*a*) S (*b*) R (*c*) Q (*d*) N (*e*) M

27. If the sales representative visits Q immediately before R and immediately after S, she must visit Q :
(*a*) first (*b*) second (*c*) fourth (*d*) fifth (*e*) sixth

28. Which of the following could be the order in which the sales representative visits the six companies ?
(*a*) M, S, P, N, R, Q (*b*) Q, N, P, R, S, M (*c*) M, R, N, Q, P, S
(*d*) P, S, M, R, Q, N (*e*) P, R, M, N, Q, S

ANSWERS

1. (*b*) : Raj finished before Mohit but behind Gaurav. So, the order is Gaurav, Raj, Mohit. Ashish finished before Sanchit but behind Mohit. So, the order is Mohit, Ashish, Sanchit. Thus, the full order is : Gaurav, Raj, Mohit, Ashish, Sanchit. Clearly, Gaurav won the race.

Questions 2-3

C is the second reader. A is the second last reader.
E is not the first or last to read. So, E is the third reader. There were two readers between B and A.
So, the order of reading the newspaper is : B, C, E, A, D.

2. (*b*) : B passed the newspaper to C.

3. (*d*) : D read the newspaper last.

Questions 4-5

Clearly, U is followed by P; P by T; T by W.

Now, U does not immediately follow S and R reaches last.

So, the order of reaching office is : S, Q, U, P, T, W, R

4. (*b*) : S is the first to reach office.

5. (*d*) : P is fourth in the sequence.

Questions 6 to 10

B is organised on Tuesday. Now, D is followed by the day with no lecture. D cannot be organised on Friday because then E will be on Tuesday (there is a gap of two days between D and E). It cannot be organised on Thursday (because then, there will be no lecture on Friday). B cannot be followed by D. So, D will be organised on Sunday and E on Wednesday. No lecture will be organised on Monday. A cannot be organised on Thursday. So, A will be organised on Saturday. F and C will be organised on Thursday and Friday respectively.

So, the correct order is :

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
D	×	B	E	F	C	A

6. (*a*) : There is no lecture on Monday.

7. (*c*) : Three lectures are organised between C and D — B, E and F.

8. (*a*) : F is organised on Thursday.

9 (*a*) : A is the last lecture.

10. (*e*) : All the given statements are required.

Questions 11 to 15

Proceed as in Questions 6-10.

The correct order is :

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Group Discussion	×	Quality Circle	Leadership	Decision Making	Assessment Centre	Motivation

11. (*e*) : The first lecture is on Group Discussion and the last one is on Motivation.

12. (*c*) : Three lectures are organised between Motivation and Quality Circle — Assessment Centre, Decision Making and Leadership.

13. (*e*) : The lecture on Leadership is on Thursday.

14. (*c*) : There is no lecture on Tuesday.

15. (*e*) : All the given informations are required.

Questions 16 to 20

The course starts with Psychology. So, Psychology will be on the 22nd. 23rd being a Sunday will be a holiday. Science will be before Engineering and Economics will be on one day gap with Engineering means the order followed can be Economics, Science and Engineering. Mechanics will be the last *i.e.*, on the 29th. So, Sociology will fill the gap on the 28th. Thus, we have :

22nd	23rd	24th	25th	26th	27th	28th	29th
Psychology	Sunday	Philosophy	Economics	Science	Engineering	Sociology	Mechanics

16. (*a*) : The course will start with Psychology.

17. (*c*) : Economics will be on Tuesday, the 25th.

18. (*e*) : Sociology precedes Mechanics.

19. (*a*) : There is only one day gap between Philosophy and Science.

20. (*d*) : Economics is followed by Science.

Questions 21 to 23

E should be immediately followed by C *i.e.* the order EC should be followed.

D should be immediately followed by B *i.e.* the order DB should be followed.

One play is staged between A and B and D or E should not be the first or last play. So, the order is :

Monday	Tuesday	Wednesday	Thursday	Friday
A	D	B	E	C

21. (*a*) : A is the first play to be staged.

22. (*e*) : The correct order is A D B E C.

23. (*b*) : B was staged on Wednesday.

Questions 24 to 28

24. (*a*) : Clearly, she visits M before N and N before Q. So, she must visit M before Q.

25. (*a*) : Of the six companies if S is first, P is third and the orders M N Q and M R are followed. Clearly, M must be visited second.

26. (*e*) : Since P is at third place and orders M, N, Q and M, R are to be followed, so immediately after P she can visit any company except M and which may occupy first or second place because Q, R and N cannot precede it.

27. (*d*) : If Q is visited just before R and immediately after S, the order followed will be M N S Q R. Since P must be in 3rd place, so we have M N P S Q R *i.e.*, Q will be visited fifth.

28. (*a*) : According to information, P must be in third place and the order M, N and Q must not be violated. This is followed only in the arrangement M S P N R Q.

TYPE 5 : SELECTION BASED ON GIVEN CONDITIONS

In such type of questions, a few essential criteria for selection of a group of items are given. The candidate has to keep these conditions in mind and make the required selection as per the directions given in each question.

Ex. 1. ***Study the following information carefully and answer the questions given below it :***

From amongst six boys A, B, C, D, E and F and five girls P, Q, R, S and T, a team of six is to be selected under the following conditions :

(*i*) A and D have to be together.

(*ii*) C cannot go with S.

(*iii*) S and T have to be together.

(*iv*) B cannot be teamed with E.

(*v*) D cannot go with P.

(*vi*) B and R have to be together.

(*vii*) C and Q have to be together.

1. If there be five boys in the team, the lone girl member is :

(*a*) P (*b*) Q (*c*) R (*d*) S

2. If including P, the team has three girls, the members are :

(*a*) B C F Q R (*b*) A D E S T (*c*) A D B S T (*d*) B F R S T

3. If the team including C consists of four boys, the members of the team other than C are :
   (*a*) A D E P Q (*b*) A B D Q R (*c*) D E F A Q (*d*) B E F R Q
4. If four members including E have to be boys, the members other than E are :
   (*a*) A B C Q R (*b*) A D F S T (*c*) B C F Q R (*d*) A C D F Q
5. If four members have to be girls, the members of the team are :
   (*a*) B C P Q R S (*b*) B F P R S T (*c*) B C Q R S T (*d*) B C P Q R T

Solution : The given questions may be handled as under :

1. In a team of six if five boys are to be selected then both A and D together are selected. If C is selected, a girl Q will be selected.
   From B and E, one has to be selected. So, we select E because B will be accompanied by a girl. The fifth boy will be F. So, the only girl will be Q in the team A C D E F Q. Hence, the answer is (*b*).
2. If P is included, D and hence A cannot be included. If Q is selected, C has to be selected and so S cannot be selected. T goes with S. So, T is also not selected. The third girl can be R. With R, B will be selected but with B, E cannot be selected. So, the sixth member can be F only. *i.e.*, the team becomes P Q C R B F. So, the answer is (*a*).
3. If team contains C, Q will be included. If another girl included is R, B will be there and hence E cannot be there. A and D have to be together. So, they are also included and only F can be excluded. Thus, the team is C Q R B A D. So, the answer is (*b*).
4. If E is included, B cannot be included. A and D have to be together. So, they are both included. Without B, R will not be there. With D, P cannot be there. So, two girls together can be only S and T. If S is there, C cannot be there. So the fourth boy can be F alone. Thus, the team becomes E A D S T F. So, the answer is (*b*).
5. In four girls, S and I are taken together. With S, C cannot be there. So, Q will not be there. If P is included, D and hence A cannot be there. If R is included, B will be there and hence E cannot be there. So, only F can be there. Thus, the team is S T P R B F. So, the answer is (*b*).

EXERCISE 6E

Directions (*Questions 1 to 5*) : *Study the following information carefully and answer the questions that follow :* **(Hotel Management, 1996)**

A team of five is to be selected from amongst five boys A, B, C, D and E and four girls P, Q, R and S. Some criteria for selection are :

A and S have to be together.
P cannot be put with R.
D and Q cannot go together.
C and E have to be together.
R cannot be put with B.

Unless otherwise stated, these criteria are applicable to all the questions below :

1. If two of the members have to be boys, the team will consist of :
   (*a*) A B S P Q (*b*) A D S Q R (*c*) B D S R Q (*d*) C E S P Q
2. If R be one of the members, the other members of the team are :
   (*a*) P S A D (*b*) Q S A D (*c*) Q S C E (*d*) S A C E
3. If two of the members are girls and D is one of the members, the members of the team other than D are :
   (*a*) P Q B C (*b*) P Q C E (*c*) P S A B (*d*) P S C E

4. If A and C are members, the other members of the team cannot be :
(*a*) B E S (*b*) D E S (*c*) E S P (*d*) P Q E

5. If including P at least three members are girls, the members of the team other than P are :
(*a*) Q S A B (*b*) Q S B D (*c*) Q S C E (*d*) R S A D

Directions (*Questions 6 to 10*) : *Read the following information carefully and answer the questions given below it :*

There are five men A, B, C, D and E and six women P, Q, R, S, T and U. A, B and R are advocates; C, D, P, Q and S are doctors and the rest are teachers. Some teams are to be selected from amongst these eleven persons subject to the following conditions :

A, P and U have to be together.
B cannot go with D or R.
E and Q have to be together.
C and T have to be together.
D and P cannot go together.
C cannot go with Q.

6. If the team is to consist of two male advocates, two lady doctors and one teacher, the members of the team are :
(*a*) A B P Q U (*b*) A B P U S (*c*) A P R S U (*d*) B E Q R S

7. If the team is to consist of one advocate, two doctors, three teachers and C may not go with T, the members of the team are :
(*a*) A E P Q S U (*b*) A E P Q T U (*c*) B E Q S T U (*d*) E Q R S T U

8. If the team is to consist of one male advocate, one male doctor, one lady doctor and two teachers, the members of the team are :
(*a*) A C P T U (*b*) A D E P T (*c*) A D E P U (*d*) B C E Q U

9. If the team is to consist of one advocate, three doctors and one male teacher, the members of the team are :
(*a*) A D P S U (*b*) C D R S T (*c*) D E Q R S (*d*) D E Q R T

10. If the team is to consist of two advocates, two doctors, two teachers and not more than three ladies, the members of the team are :
(*a*) A B C P T U (*b*) A C P R T U (*c*) A E P Q R T (*d*) B C E Q R T

Directions (*Questions 11 to 15*) : *Study the following information carefully and answer the questions that follow :* **(L.I.C.A.A.O. 1995)**

From amongst five doctors A, B, C, D and E, four engineers G, H, K and L and six teachers M, N, O, P, Q and R, some teams are to be selected. Of these, A, B, G, H, O, P and Q are females and the rest are males.

The formation of teams is subject to the following conditions :
Wherever there is a male doctor, there will be no female teacher.
Wherever there is a male engineer, there will be no female doctor.
There shall not be more than two male teachers in any team.

11. If the team consists of two doctors, three female teachers and two engineers, the members of the team are :
(*a*) A B O P Q G H (*b*) C D K L O P Q
(*c*) C D O P Q G H (*d*) D E G H O P Q

12. If the team consists of two doctors, one engineer and four teachers, all the following teams are possible except :

(*a*) A B G M N O P (*b*) A B H M O P Q
(*c*) A B H M R P Q (*d*) A B K N R P Q

13. If the team consists of two doctors, two female teachers and two engineers, all the following teams are possible except :

(*a*) A B G H O Q (*b*) A B G H P Q
(*c*) A B K L P Q (*d*) O P G H A B

14. If the team consists of three doctors, two male engineers and two teachers, the members of the team could be :

(*a*) A B C K L M R (*b*) B C D K L N R
(*c*) C D E K L M N (*d*) C D E K L P R

15. If the team consists of two doctors, two engineers and two teachers, all the following teams are possible except :

(*a*) A B G H O P (*b*) A B G H M N
(*c*) C E K L N R (*d*) C D K L O P

Directions (*Questions 16 to 18*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1996)**

Eight students A, B, C, D, E, F, G and H are planning to enjoy car racing. There are only two cars and following are the conditions :

(*i*) One car can accommodate maximum five and minimum four students.
(*ii*) A will sit in the same car in which D is sitting but H is not in the same car.
(*iii*) B and C can't sit in the same car in which D is sitting.
(*iv*) F will sit in the car of four people only alongwith A and E but certainly not with G.

16. If H and G are sitting in the same car, who are other two students sitting in the same car ?

(*a*) B and C (*b*) C and D (*c*) B and D
(*d*) E and B (*e*) None of these

17. If E and A are sitting in the same car, which of the following statements is true ?

(*a*) Five students are sitting in the same car.
(*b*) B is sitting in the same car.
(*c*) F is not sitting in the same car.
(*d*) G is not sitting in the same car.
(*e*) None of these

18. Which of the following statements is superfluous for the above sitting arrangements ?

(*a*) Only (*i*) (*b*) Only (*ii*) (*c*) Only (*iii*)
(*d*) Only (*iv*) (*e*) None of these

Directions (*Questions 19 to 23*) : *Study the following information carefully and answer the questions that follow :* **(NABARD, 1994)**

At an Electronic Data Processing Unit, five out of the eight program sets P, Q, R, S, T, U, V and W are to be operated daily. On any one day, except for the first day of a month, only three of the program sets must be the ones that were operated on the previous day. The program operating must also satisfy the following conditions :

(*i*) If program P is to be operated on a day, V cannot be operated on that day.

(*ii*) If Q is to be operated on a day, T must be one of the programs to be operated after Q.

(*iii*) If R is to be operated on a day, V must be one of the programs to be operated after R.

(*iv*) The last program to be operated on any day must be either S or U.

19. Which of the following could be the set of programs to be operated on the first day of a month ?

(*a*) V, Q, R, T, S (*b*) U, Q, S, T, W (*c*) T, U, R, V, S
(*d*) Q, S, R, V, U (*e*) P, R, V, S, U

20. Which of the following is true of any day's valid program set operation ?

(*a*) P cannot be operated at third place.
(*b*) Q cannot be operated at third place.
(*c*) R cannot be operated at fourth place.
(*d*) T cannot be operated at third place.
(*e*) U cannot be operated at fourth place.

21. If R is operated at third place in a sequence, which of the following cannot be the second program in that sequence ?

(*a*) Q (*b*) S (*c*) T (*d*) U (*e*) W

22. If the program sets R and W are to be operated on the first day, which of the following could be the other programs on that day ?

(*a*) P, T, V (*b*) Q, S, V (*c*) Q, T, V (*d*) T, S, U (*e*) T, S, V

23. If the program sets operated on a day is P, Q, W, T, U, each of the following could be the next day's program set except :

(*a*) W, T, U, V, S (*b*) W, T, S, P, U (*c*) W, R, V, T, U
(*d*) Q, T, V, W, S (*e*) Q, R, V, T, U

ANSWERS

1. (*a*) : If A is selected, S has to be selected.
If B is selected, R cannot be selected.
If D is selected, Q cannot be selected.
So, A D S Q R and B D S R Q are wrong. C E S P Q is not possible because S has to be accompanied with A.

2. (*d*) : If R is selected, P cannot be selected. So, P S A D is wrong.
D and Q cannot go together. So, Q S A D is wrong.
S and A have to be together. So, Q S C E is wrong.

3. (*c*) : If D is selected, Q cannot be selected. So, P Q B C and P Q C E are not correct.
S and A have to be together. So, P S C E is also wrong.

4. (*d*) : If A and C are members, S and E have also to be selected. So, P Q E is not the correct combination.

5. (*a*) : P and R cannot be together. So, R S A D is wrong.
S and A have to be together. So, Q S B D and Q S C E are incorrect.

6. (*b*) : The male advocates are A and B, lady doctors are P, Q and S; teachers are E, T and U.
Now, A and B will be selected.
A, P and U have to be together.
Now, we have to select one lady doctor more. It can be Q or S. But Q and E have to be together. Since E is not selected, so S will be selected.
Thus, the team is A B P U S.

7. (*b*) : The advocates are A, B and R; doctors are C, D, P, Q, S; teachers are E, T and U. The team consists of 3 teachers *i.e.* E, T, U.
Now, A, P and U have to be together.
E and Q have to be together.
Thus, the team is A E P Q T U.

8. (*a*) : The male advocates are A and B; male doctors are C and D; lady doctors are P, Q and S; teachers are E, T and U.
If A is selected, P and U will be selected. D and P cannot go together. So, a male doctor C will be selected. C and T have to be together. Thus, the team is A C P T U. If B is selected, D will not be selected. So, male doctor C will be chosen. C and T have to be together. Now, the second teacher to be selected is E or U. But, U cannot go without A. So, E will be selected. E and Q have to be together. Thus, the team can also be B C E Q T.

9. (*c*) : The advocates are A, B and R; the doctors are C, D, P, Q and S; male teacher is E. Clearly, E will be selected. E and Q have to be together. C and Q cannot be together. So, C will not be selected. P also cannot be selected because U is not selected. So, two other doctors D and S will be selected. P is not selected, so A will not be selected. D is selected, so B cannot be selected. Thus, the team is D E Q R S.

10. (*a*) : A C P R T U and A E P Q R T are wrong because each of these combinations consists of four ladies. B C E Q R T is incorrect because B and R cannot go together.

11. (*a*) : The doctors are A, B, C, D and E; female teachers are O, P and Q; engineers are G, H, K and L. The three female teachers to be selected are O, P and Q.
Now, wherever there is a male doctor, there will be no female teacher. But three female teachers are selected. So, C, D and E cannot be selected. Thus, two doctors selected are A and B.
Since female doctors are selected, so male engineers K and L cannot be selected.
Hence, the team formed is A B O P Q G H.

12. (*d*) : The doctors are A, B, C, D and E; engineers are G, H, K and L; teachers are M, N, O, P, Q and R. Four teachers are needed. There are three male teachers. So, female teachers are also to be selected. So, male doctors *i.e.* C, D and E cannot be selected. Thus, the two doctors selected will be A and B.
Both the doctors selected are females. So, male engineer K or L cannot be selected and either G or H is to be chosen.
Clearly, the impossible team is A B K N R P Q, because K is not to be selected.

13. (*c*) : The doctors are A, B, C, D and E; female teachers are O, P and Q; engineers are G, H, K and L. Since two female teachers are to be selected, so male doctors *i.e.* C, D and E cannot be selected. Thus, the two doctors selected will be A and B. Both the doctors are females. So, male engineer K or L cannot be selected and G and H are to be chosen.
Clearly, the only impossible team is A B K L P Q.

14. (*c*) : The doctors are A, B, C, D and E; male engineers are K and L; teachers are M, N, O, P, Q and R. Clearly, the two male engineers to be selected are K and L.
Since male engineers are selected, so female doctors *i.e.* A and B cannot be selected. Thus, three doctors to be selected are C, D and E. The doctors selected are all males. So, female teachers O, P and Q cannot be selected. Thus, two teachers out of M, N and R are to be selected.
Hence, the possible team is C D E K L M N.

15. (*d*) : Since no particular specifications are given, so we shall verify the correctness of the suggested teams separately. Clearly, C D K L O P is incorrect because C and D are male doctors and so cannot go with female teachers O and P.

Questions 16 to 18

Consider two cars I and II.

A and D sit in the same car, say I.

H is not in the same car *i.e.* H is in car II.

B and C are not in the same car in which D is sitting *i.e.* B and C are in car II.

F sits along with A and E in the same car *i.e.* car I.

G is in the other car *i.e.* car II.

Thus, we have :

Car I → A, D, E, F

Car II → B, C, G, H

16. (*a*) : B and C are sitting in the same car in which G and H are sitting.

17. (*d*) : Clearly, G is not sitting in the car in which A and E are sitting.

18. (*a*) : Clearly, statement (*i*) is not necessary.

19. (*c*) : Condition (*i*) makes (*e*) incorrect.

Condition (*ii*) is not followed in (*d*).

Condition (*iii*) is not followed in (*a*).

Condition (*iv*) is not followed in (*b*).

So, the only correct set is (*c*).

20. (*c*) : Clearly, if R is operated at the fourth place, V must be operated somewhere after it. This is not possible since the fifth program is the last one which has to be either S or U. So, R cannot be operated at the fourth place.

21. (*a*) : If R is operated at third place, it will be followed by V at the fourth place and S or U at the end.

So, Q which must have T as one of the programs after it, cannot be at the second place.

22. (*e*) : Since R is operated, so V must also be operated.

Also, S or U is to be taken at the end.

So, the possible combinations are Q, S, V and T, S, V.

Now, Q must have T as one of the programs after it, which is not possible. So, Q, S, V is incorrect.

23. (*b*) : It is given that on any one day, only three of the program sets must be the ones that were operated on the previous day.

But, (*b*) contains four programs out of those operated on the first day. So, it is the wrong combination.

TYPE 6 : FAMILY-BASED PROBLEMS

In such type of questions, some clues are given regarding relationship among different members of a family and their professions, qualities, dresses, preferences etc. The candidate is required to analyse the whole information and then answer the given questions accordingly.

Ex. ***Read the following information carefully and answer the questions given below it :***

(*i*) There is a group of six persons A, B, C, D, E and F from a family. They are Psychologist, Manager, Lawyer, Jeweller, Doctor and Engineer.

(*ii*) The doctor is the grandfather of F who is a Psychologist.

(*iii*) The Manager D is married to A.

(*iv*) C, the Jeweller is married to the Lawyer.

(*v*) B is the mother of F and E.
(*vi*) There are two married couples in the family.

1. What is the profession of E ?
(*a*) Doctor (*b*) Jeweller (*c*) Manager
(*d*) Psychologist (*e*) None of these

2. How is A related to E ?
(*a*) Brother (*b*) Uncle (*c*) Father
(*d*) Grandfather (*e*) None of these

3. How many male members are there in the family ?
(*a*) One (*b*) Three (*c*) Four
(*d*) Data inadequate (*e*) Cannot be determined

4. What is the profession of A ?
(*a*) Doctor (*b*) Lawyer (*c*) Jeweller
(*d*) Manager (*e*) None of these

5. Which of the following is one of the pairs of couples in the family ?
(*a*) AB (*b*) AC (*c*) AD
(*d*) Cannot be determined (*e*) None of these

Solution : Given F is a psychologist.

B is the mother of F and E means E is the brother or sister of F.

There are only two married couples in the family. Since D is married to A, so C, the jeweller, who is married to a lawyer, will be married to B.

Again, the Manager D is married to A means A is the doctor and Grandfather of F and E.

Also, no one else is an Engineer. So, E must be an Engineer.

1. Clearly, E is an Engineer. So, the answer is (*e*).
2. Clearly, A is the grandfather of F and E is the brother or sister of F. So, A is the grandfather of E. Hence, the answer is (*d*).
3. Since nothing is mentioned about E and F, so the number of males cannot be determined. Hence, the answer is (*e*).
4. Clearly, A who is the grandfather of D is the doctor. Hence, the answer is (*a*).
5. Clearly, D, the manager is married to A. So, AD is one of the couples in the family. Hence, the answer is (*c*).

EXERCISE 6F

Directions (*Questions 1 to 4*) : *Study the following information carefully and answer the questions given below it :*

Prashant Arora has three children — Sangeeta, Vimal and Ashish. Ashish married Monika, the eldest daughter of Mr. and Mrs. Roy. The Roys married their youngest daughter to the eldest son of Mr. and Mrs. Sharma, and they had two children named Amit and Shashi. The Roys have two more children, Roshan and Vandana, both elder to Veena. Sameer and Ajay are sons of Ashish and Monika. Rashmi is the daughter of Amit.

1. What is the surname of Rashmi ?
(*a*) Sharma (*b*) Roy (*c*) Arora
(*d*) Cannot be determined (*e*) None of these

2. How is Sameer related to the father of Monika ?
(*a*) Grandson (*b*) Son (*c*) Cousin
(*d*) Son-in-law (*e*) None of these

3. What is the surname of Sameer ?
(*a*) Roy (*b*) Sharma (*c*) Arora
(*d*) Cannot be determined (*e*) None of these

4. How is Mrs. Roy related to Ashish ?
(*a*) Aunt (*b*) Mother-in-law (*c*) Mother
(*d*) Sister-in-law (*e*) None of these

Directions (*Questions 5 to 9*) : *Read the following information carefully and answer the questions that follow :* **(Railways, 1994)**

(*i*) P, Q, R, S, T and U are travelling in a bus.
(*ii*) There are two reporters, two technicians, one photographer and one writer in the group.
(*iii*) The photographer P is married to S who is a reporter.
(*iv*) The writer is married to Q who is of the same profession as that of U.
(*v*) P, R, Q, S are two married couples and nobody in the group has same profession.
(*vi*) U is brother of R.

5. Which of the following is a pair of technicians ?
(*a*) RS (*b*) SU (*c*) PT (*d*) QU

6. Which of the following is a pair of reporters ?
(*a*) PQ (*b*) RT (*c*) ST (*d*) SU

7. How is R related to U ?
(*a*) Brother (*b*) Sister (*c*) Uncle (*d*) Cannot be determined

8. Which of the following pairs is a couple ?
(*a*) PQ (*b*) QR (*c*) QS (*d*) PT

9. Which of the following is a pair of husbands ?
(*a*) PQ (*b*) PR (*c*) QS (*d*) Cannot be determined

Directions (*Questions 10 to 14*) : *Study the following information carefully and answer the questions given below it :* **(Bank P.O. 1995)**

(*i*) P, Q, R, S, T and U are six members in a family in which there are two married couples.
(*ii*) T, a teacher is married to the doctor who is mother of R and U.
(*iii*) Q, the laywer is married to P.
(*iv*) P has one son and one grandson.
(*v*) Of the two married ladies one is a housewife.
(*vi*) There is also one student and one male engineer in the family.

10. How is P related to R ?
(*a*) Grandfather (*b*) Mother (*c*) Sister
(*d*) Grandmother (*e*) None of these

11. Who among the following is the housewife ?
(*a*) P (*b*) Q (*c*) S (*d*) T (*e*) None of these

12. How is R related to U ?
(*a*) Brother (*b*) Sister (*c*) Brother or Sister
(*d*) Data inadequate (*e*) None of these

13. Which of the following represents the group of females in the family ?
(*a*) PSR (*b*) PSU (*c*) QTR
(*d*) Data inadequate (*e*) None of these

14. Which of the following is true about the grand-daughter in the family ?
(*a*) She is a lawyer. (*b*) She is a student. (*c*) She is an engineer.
(*d*) Data inadequate (*e*) None of these

Directions (*Questions 15 to 19*) : *Study the information given below and answer the questions that follow :*

There are five persons P, Q, R, S and T. One is football player, one is chess player and one is hockey player. P and S are unmarried ladies and do not participate in any game. None of the ladies plays chess or football. There is a married couple in which T is the husband. Q is the brother of R and is neither a chess player nor a hockey player.

15. Who is the football player ?
(*a*) P (*b*) Q (*c*) R (*d*) S (*e*) T

16. Who is the hockey player ?
(*a*) P (*b*) Q (*c*) R (*d*) S (*e*) T

17. Who is the chess player ?
(*a*) P (*b*) Q (*c*) R (*d*) S (*e*) T

18. Who is the wife of T ?
(*a*) P (*b*) Q (*c*) R (*d*) S (*e*) None

19. The three ladies are :
(*a*) P, Q, R (*b*) Q, R, S (*c*) P, Q, S (*d*) P, R, S (*e*) None of these

Directions (*Questions 20 to 24*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1995)**

(*i*) There is a family of six members A, B, C, D, E and F.
(*ii*) There are two married couples in the family and the family members represent three generations.
(*iii*) Each member has a distinct choice of a colour amongst green, yellow, black, red, white and pink.
(*iv*) No lady member likes either green or white.
(*v*) C, who likes black colour is the daughter-in-law of E.
(*vi*) B is brother of F and son of D and likes pink.
(*vii*) A is grandmother of F and F does not like red.
(*viii*) The husband has a choice of green colour, his wife likes yellow.

20. Which of the following is the colour preference of A ?
(*a*) Red (*b*) Yellow (*c*) Either Red or Yellow
(*d*) Cannot be determined (*e*) None of these

21. How many male members are there in the family ?
(*a*) Two (*b*) Three (*c*) Four
(*d*) Cannot be determined (*e*) None of these

22. Which of the following is true about F ?
(*a*) Brother of B (*b*) Sister of B (*c*) Daughter of C
(*d*) Either sister or brother of B (*e*) None of these

23. Which of the following is the colour combination of one of the couples ?
(*a*) Red-Yellow (*b*) Yellow-Red (*c*) Green-Black
(*d*) Yellow-Green (*e*) None of these

24. Which of the following is one of the married couples ?
(*a*) AC (*b*) CD (*c*) DA
(*d*) Cannot be determined (*e*) None of these

Directions (*Questions 25 to 29*) : *Study the following information carefully and answer the questions that follow :* **(Bank P.O. 1994)**

(*i*) A, B, C, D, E and F are six members in a family in which there are two married couples.
(*ii*) D is brother of F. Both D and F are lighter than B.
(*iii*) B is mother of D and lighter than E.
(*iv*) C, a lady, is neither heaviest nor the lightest in the family.
(*v*) E is lighter than C.
(*vi*) The grandfather in the family is the heaviest.

25. How is E related to F ?
(*a*) Grandmother (*b*) Brother (*c*) Father
(*d*) Data inadequate (*e*) None of these

26. Which of the following is a pair of married couples ?
(*a*) AB (*b*) BC (*c*) AD (*d*) BE (*e*) None of these

27. How many male members are there in the family ?
(*a*) Two (*b*) Three (*c*) Four
(*d*) Data inadequate (*e*) None of these

28. Who among the following will be in the second place if all the members in the family are arranged in the descending order of their weights ?
(*a*) A (*b*) C (*c*) D (*d*) Data inadequate (*e*) None of these

29. How is C related to D ?
(*a*) Grandmother (*b*) Cousin (*c*) Sister
(*d*) Mother (*e*) None of these

Directions : *On the basis of the information given below, answer questions 30 to 33.* **(S.B.I.P.O. 1994)**

(*i*) P, Q, R, S, T and U are six members of a group of which three are males and three are females.
(*ii*) There are two engineers, two lawyers, one teacher and one doctor in the group.
(*iii*) Q, T, P and R are two married couples and no person in this group has the same profession.
(*iv*) T, a teacher with blue dress, married a male lawyer with brown dress.
(*v*) Colour of the dresses of both the husbands and that of both the wives is the same.
(*vi*) Two persons have blue dress, two have brown and the remaining one each has black and green.
(*vii*) P is a male engineer whose sister S is also an engineer.
(*viii*) Q is a doctor.

30. Who is the wife of P ?
(*a*) Q (*b*) R (*c*) S (*d*) T (*e*) None of these

31. Which of the following is a group of female members ?
(*a*) QSR (*b*) QST (*c*) QSU (*d*) QTU (*e*) UST

32. Which of the following is a pair of married ladies ?
(*a*) PR (*b*) TS (*c*) QT
(*d*) Data inadequate (*e*) None of these

33. What is the colour of U's dress ?
(*a*) Black (*b*) Green (*c*) Black or Green
(*d*) Data inadequate (*e*) None of these

Directions (*Questions 34 to 38*) : *Read the following information to answer the questions given below it :* **(S.B.I.P.O. 1995)**

(*i*) In a family of six persons, there are people from three generations. Each person has separate profession and also they like different colours. There are two couples in the family.
(*ii*) Rohan is a CA and his wife neither is a doctor nor likes green colour.
(*iii*) Engineer likes red colour and his wife is a teacher.
(*iv*) Mohini is mother-in-law of Sunita and she likes orange colour.
(*v*) Vinod is grandfather of Tanmay and Tanmay, who is a principal, likes black colour.
(*vi*) Nanu is grand-daughter of Mohini and she likes blue colour. Nanu's mother likes white colour.

34. Who is an Engineer ?
(*a*) Nanu (*b*) Mohini (*c*) Sunita
(*d*) Cannot be determined (*e*) None of these

35. What is the profession of Sunita ?
(*a*) Engineer (*b*) Doctor (*c*) Teacher
(*d*) Cannot be determined (*e*) None of these

36. Which of the following is the correct pair of two couples ?
(*a*) Mohini-Vinod and Rohan-Sunita (*b*) Vinod-Mohini and Rohan-Nanu
(*c*) Rohan-Sunita and Tanmay-Nanu (*d*) Cannot be determined
(*e*) None of these

37. How many ladies are there in the family ?
(*a*) Two (*b*) Three (*c*) Four
(*d*) Cannot be determined (*e*) None of these

38. Which colour is liked by CA ?
(*a*) Green (*b*) White (*c*) Either White or Greer.
(*d*) Cannot be determined (*e*) None of these

ANSWERS

1. (*a*) : Rashmi is the daughter of Amit who is, therefore the eldest son of Sharmas and married to Veena, the youngest daughter of the Roys. So, the surname of Rashmi is Sharma.

2. (*a*) : Sameer is the son of Ashish who is the son of Prashant Arora. So, Sameer will be the grandson of Monika's father.

3. (*c*) : Sameer is the son of Ashish who is the son of Prashant Arora. So, surname of Sameer is Arora.

4. (*b*) : Ashish is married to Monika who is the daughter of Mrs. Roy. So, Mrs. Roy will be the mother-in-law of Ashish.

Questions 5 to 9

P is a photographer.
P is married to S. So, one couple is PS. Then, the other couple is RQ.
S is a reporter.
The writer is married to Q. So, R is the writer. Now, P, Q, R, S have different professions. So, Q is a technician and thus U is also a technician.
U is the brother of R.
We now know the professions of P, Q, R, S and U. Only T remains. Since there are two reporters in the group, so T is also a reporter.

5. (*d*) : Q and U are technicians.
6. (*c*) : S and T are reporters.
7. (*d*) : Since the sex of R is not given, so R may be the brother or sister of U.
8. (*b*) : PS and QR are two couples.
9. (*d*) : The sex of P, Q, R, S is not given. So, the pair of husbands cannot be determined.

Questions 10 to 14

One couple is QP.
Now, R and U are the children of T. So, the other couple is TS.
T is a teacher.
S is a female doctor.
Q is a lawyer.
Clearly, P is a housewife and hence a female.
S is the mother of R and U.
P has one son and one grandson.
Clearly, T is the son of P and R or U is the grandson.
The grandson is a male engineer and the grand-daughter is a student.

10. (*d*) : P is the grandmother of R.
11. (*e*) : P is the housewife.
12. (*c*) : R may be the brother or sister of U.
13. (*d*) : Since the sex of R and U is not given, so the set of three females cannot be determined.
14. (*b*) : The grand-daughter is a student.

Questions 15 to 19

Clearly, Q is neither a hockey player nor a chess player. So, he must be a football player and thus cannot be a lady. T is a husband (not a lady) and so must be a chess player. Hence, R must be a hockey player, and therefore she must be a lady and T's wife. So, the information can be summarised as follows :
P — unmarried lady, does not participate in games.
Q — brother of R, football player.
R — hockey player, T's wife.
S — unmarried lady, does not participate in games.
T — husband of R, chess player.

15. (*b*) : Q is the football player.
16. (*c*) : R is the hockey player.
17. (*e*) : T is the chess player.
18. (*c*) : R is the wife of T.
19. (*d*) : The three ladies are P, R and S.

Questions 20 to 24

B and F are children of D.
A is grandmother of F. So, B and F represent third generation.

Now, C is the daughter-in-law of E. So, A and E form a couple and represent first generation. A, being grandmother, is a female and so E is a male.
C is the daughter-in-law of E and so D is E's son. Thus, CD is the other couple and represents second generation.
C likes black, B likes pink. Green and yellow are the preferences of a couple. So, A likes yellow and E likes green. Now, F does not like red. So, F likes white and D likes red.
Now, F likes white and so cannot be a lady. B is the son of D and hence a male.

20. (*b*) : A prefers yellow colour.

21. (*c*) : There are four male members — E, D, B, F.

22. (*a*) : Both F and B are males and both are children of D. So, F is the brother of B.

23. (*d*) : Yellow-Green is the colour combination of the couple AE.

24. (*b*) : AE and CD are two couples.

Questions 25 to 29

In terms of weight, $F < B$, $D < B$, $B < E$, $E < C$. So, we have : $D < F < B < E < C$ or $F < D < B < E < C$. C is not the heaviest. So, A is the heaviest. Thus, the sequence becomes : $F < D < B < E < C < A$ or $D < F < B < E < C < A$.
D is the brother of F.
B is the mother of D and F.
A, being the heaviest, is the grandfather.
Now, C is a lady and so one couple is AC.
B is a female and so cannot pair up with C. So, the other couple is BE.

25. (*c*) : E is the husband of B and B is the mother of F. So, E is the father of F.

26. (*d*) : AC and BE are the married couples. BE is one of them.

27. (*d*) : The sex of F is known.

28. (*b*) : The descending order of weights is :
$A > C > E > B > F > D$ or $A > C > E > B > D > F$.
Clearly, C comes second.

29. (*a*) : C is the wife of A and A is the grandfather of D. So, C is the grandmother of D.

Questions 30 to 33

T is a female teacher with blue dress.
T married a lawyer. Now, P is an engineer and Q is a doctor. Clearly, T married R.
R is, thus, a male lawyer with brown dress.
One couple is RT. So, the other couple is PQ.
P is a male engineer and has the same dress as R *i.e.*, brown.
Q is a female doctor and has the same dress as T *i.e.*, blue.
S is the sister of P. S is a female engineer. Now, U remains. Since there are two lawyers, so U is a lawyer.
Both S and U have either black or green dress.

	P	Q	R	S	T	U
Profession	Engineer	Doctor	Lawyer	Engineer	Teacher	Lawyer
Colour of dress	Brown	Blue	Brown	Black or Green	Blue	Black or Green
Sex	Male	Female	Male	Female	Female	Male

30. (*a*) : Q is the wife of P.

31. (*b*) : Q, S and T are female members.

32. (*c*) : Q and T are married ladies.

33. (*c*) : U's dress is black or green in colour.

Questions 34 to 38

Mohini is mother-in-law of Sunita and grandmother of Nanu. Vinod is grandfather of Tanmay. So, Nanu and Tanmay represent third generation.

Mohini and Vinod form a couple and represent first generation.

Clearly, Rohan and Sunita form the other couple and represent second generation.

Rohan is a CA. Since engineer is married, so Vinod is an engineer and likes red colour.

Mohini is a teacher and likes orange colour.

Nanu likes blue colour.

Tanmay is a Principal and likes black colour.

Sunita, Nanu's mother, likes white colour.

Clearly, Rohan likes green colour.

34. (*e*) : Vinod is an engineer.

35. (*d*) : The only clue that Sunita, Rohan's wife, is not a doctor, cannot lead to her correct profession. So, the data is inadequate.

36. (*a*) : The two couples are Mohini-Vinod and Rohan-Sunita.

37. (*b*) : There are three ladies in the family — Mohini, Sunita and Nanu.

38. (*a*) : Rohan is a CA and likes green colour.

TYPE 7 : JUMBLED PROBLEMS

In this type of questions, some mixed clues regarding three or more qualities of given items or persons is given. The candidate is required to analyse this mixed information with respect to different qualities and classify the items accordingly.

Ex. ***Read the following statements and answer the questions that follow :***

Of the six men of literature A, B, C, D, E and F being considered here, two belonged to the 17th century, three to the 19th and one to the 20th century. Four were recognised as great poets, three as great novelists and three as great dramatists. One contributed to Bengali literature, two to Hindi, two to Marathi and one to Tamil. The 20th century writer wrote poetry only and contributed to Marathi literature and the other Marathi writer contributed to poetry, novel and drama. One Hindi writer and the only Tamil writer belonged to the 19th century. The former contributed to poetry and novel while the latter to novel and drama. The Bengali writer belonged to the 17th century and contributed to poetry only. A belonged to the 20th century, B wrote drama only, C contributed to Marathi literature, D was a Hindi poet and novelist and belonged to the 19th century. E also belonged to the 19th century, and F contributed to poetry only.

1. To which language did B contribute ?

(*a*) Bengali (*b*) Hindi (*c*) Marathi (*d*) Tamil

2. Among these, who was the Tamil writer ?

(*a*) A (*b*) B (*c*) E (*d*) F

3. To which branch of literature did A contribute ?

(*a*) Poetry (*b*) Novel (*c*) Drama (*d*) All of these

4. Among these, who was the Bengali writer ?

(*a*) A (*b*) B (*c*) E (*d*) F

5. To which branch of literature did C contribute ?

(*a*) Poetry (*b*) Drama (*c*) Novel (*d*) All the three

Solution : Clearly, there is one belonging to 20th century. So, A who belongs to 20th century contributes to Marathi poetry.

Also, D is a Hindi poet and novelist who belongs to the 19th century.

There are only two Marathis. So, C who is a Marathi will contribute to poetry, novel and drama.

Clearly, there are only four poets. So, F who is a poet, will be Bengali belonging to the 17th century. There is now no other Bengali, no other Marathi and no other poet. B, who wrote drama only cannot be Tamil and does not belong to 19th century. So, B belongs to 17th century and is a Hindi dramatist. Thus, E belonging to the 19th century is a Tamil novelist and dramatist. C will belong to the 19th century.

1. (*b*) : B contributes to Hindi.

2. (*c*) : E is the Tamil writer.

3. (*a*) : A contributes to poetry alone.

4. (*d*) : F is the Bengali writer.

5. (*d*) : C contributes to all the three — poetry, novel and drama.

EXERCISE 6G

Directions (*Questions 1 to 5*) : *Read the following information carefully and answer the questions that follow :*

(*i*) There is a group of five persons — A, B, C, D and E.

(*ii*) One of them is a horticulturist, one is a physicist, one is a journalist, one is an industrialist and one is an advocate.

(*iii*) Three of them — A, C and advocate prefer tea to coffee and two of them — B and the journalist prefer coffee to tea.

(*iv*) The industrialist and D and A are friends to one another but two of these prefer coffee to tea.

(*v*) The horticulturist is C's brother.

1. Who is a horticulturist ?

(*a*) A (*b*) B (*c*) C (*d*) D (*e*) E

2. Who is an industrialist ?

(*a*) E (*b*) C (*c*) B (*d*) D (*e*) A

3. Which of the following groups includes a person who likes tea but is not an advocate ?

(*a*) ACE (*b*) DE (*c*) BCE (*d*) BD (*e*) None of these

4. Who is a physicist ?

(*a*) A (*b*) E (*c*) D (*d*) C (*e*) B

5. Which of the statements above is superfluous ?

(*a*) (*iii*) (*b*) (*iv*) (*c*) (*ii*) (*d*) (*v*) (*e*) Nil

Directions (*Questions 6 to 10*) : *Study the following information carefully and answer the questions given below it :* **(L.I.C.A.A.O. 1995)**

There are five friends A, B, C, D and E. Two of them are businessmen while the other three belong to different occupations *viz.* medical, engineer and legal. One businessman and the lawyer stay in the same locality S, while the other three stay in three different localities P, Q and R. Two of these five persons are Hindus while the remaining three come from three different communities *viz.* Muslim, Christian

and Sikh. The lawyer is the oldest in age while one of the businessmen who runs a factory is the youngest. The other businessman is a cloth merchant and agewise lies between the doctor and the lawyer. D is a cloth merchant and stays in locality S while E is a Muslim and stays in locality R. The doctor is a Christian and stays in locality P, B is a Sikh while A is a Hindu and runs a factory.

6. Who stays in locality Q ?
(*a*) A (*b*) B (*c*) C (*d*) E

7. What is E's occupation ?
(*a*) Business (*b*) Engineer (*c*) Lawyer (*d*) Doctor

8. Agewise who among the following lies between A and C ?
(*a*) Lawyer (*b*) Doctor (*c*) Cloth merchant (*d*) Engineer

9. What is B's occupation ?
(*a*) Business (*b*) Engineer (*c*) Lawyer (*d*) Doctor

10. What is C's occupation ?
(*a*) Doctor (*b*) Lawyer (*c*) Engineer (*d*) Business

Directions (*Questions 11 to 15*) : *Read the following information and answer the questions that follow :* **(A.A.O. Exam, 1988)**

A, B, C, D and E are five towns out of which two are hill stations and the rest are in plain. Two towns, which are in plain, are harbours. Four towns out of five are capitals and two are industrial towns. Population of two towns is less than 5 lacs. It is 20 lacs of one town and more than 50 lacs of two towns. Two towns are on the same latitudes and other two are on the same longitudes. Latitudes and longitudes of both harbours are different and out of these one is an industrial town. The population of both industrial towns is more than 50 lacs. The longitudes of one hill station and one of the industrial towns are same. The latitudes and longitudes of the other hill station and other harbour are different. One industrial town is neither a hill station nor a harbour. None of the hill stations is an industrial town. The hill station of which longitudes are same as that of a harbour, is a capital. B is a hill station while the longitudes of A and E are same. E is a harbour. The latitudes of D and C are same and the population of D is 20 lacs. Both the harbours are capitals and one of them is an industrial town.

11. Which of the following two towns are those whose population is less than 5 lacs ?
(*a*) D and A (*b*) B and C (*c*) A and B (*d*) A and C (*e*) None of these

12. Which of the following towns is not a capital ?
(*a*) A (*b*) C (*c*) D (*d*) E (*e*) B

13. Which of the following is harbour, capital and industrial town ?
(*a*) A (*b*) B (*c*) C (*d*) E (*e*) D

14. Which of the following towns have population more than 50 lacs ?
(*a*) A and D (*b*) B and E (*c*) C and E (*d*) C and D (*e*) A and C

15. Which one of the following towns is hill station as well as capital ?
(*a*) B (*b*) C (*c*) E (*d*) D (*e*) A

Directions : *Questions 16 to 20 are based on the information given below. Study it carefully and choose the correct alternative in each question.*

(Bank P.O. 1993)

(*i*) There are eight faculty members A, B, C, D, E, F, G and H in the institute, each teaching a different subject.

(*ii*) There are three lady members and of the eight, four are holding Ph.D. Degree.
(*iii*) E teaches Psychology and is Ph.D. A teaches Chemistry.
(*iv*) The one who teaches Economics is not Ph.D. No lady member teaches either Commerce or Law. Law faculty does not award Ph.D.
(*v*) D and G do not teach either Commerce or Physics.
(*vi*) H and C are lady members and are not Ph.D. F who is Ph.D. teaches Zoology.
(*vii*) B and G are Ph.Ds and G is a lady member.

16. Who teaches Physics ?
(*a*) C (*b*) Either H or C (*c*) H
(*d*) Either C or G (*e*) None of these

17. Which of the following lady members is/are Ph.D. ?
(*a*) G (*b*) G and H (*c*) C and D
(*d*) Cannot be determined (*e*) None of these

18. Which of the following statements is true ?
(*a*) Two lady members are Ph.D.
(*b*) Three male members are Ph.D.
(*c*) The person who teaches Zoology is not Ph.D.
(*d*) The person who teaches Economics is Ph.D.
(*e*) None of these

19. Which of the following combinations is not correct ?
(*a*) Commerce-Male-Ph.D. (*b*) Economics-Lady-Non-Ph.D.
(*c*) Physics-Lady-Ph.D. (*d*) Zoology-Male-Ph.D.
(*e*) Chemistry-Male-Non-Ph.D.

20. What is the subject taught by G ?
(*a*) Zoology (*b*) Either Physics or Zoology
(*c*) Either Physics or Economics (*d*) Cannot be determined
(*e*) None of these

Directions (*Questions 21 to 25*) : *Study the following information carefully and answer the questions given below it :* **(Hotel Management, 1996)**

Of the five boys A, B, C, D and E two are good, one is poor and two are average in studies. Two of them study in post-graduate classes and three in under-graduate classes. One comes from a rich family, two from middle-class families and two from poor families. One of them is interested in music, two in acting and one in sports. Of those studying in under-graduate classes, two are average and one is poor in studies. Of the two boys interested in acting, one is a post-graduate student. The one interested in music comes from a middle-class family. Both the boys interested in acting are not industrious. The two boys coming from middle-class families are average in studies and one of them is interested in acting. The boy interested in sports comes from a poor family, while the one interested in music is industrious. E is industrious, good in studies, comes from a poor family and is not interested in acting, music or sports. C is poor in studies inspite of being industrious. A comes from a rich family and is not industrious but good in studies. B is industrious and comes from a middle-class family.

21. Name the boy interested in sports.
(*a*) A (*b*) B (*c*) C (*d*) D

22. Name the boy interested in music.
(*a*) A (*b*) B (*c*) C (*d*) D

23. Name the middle-class family boy interested in acting.
(*a*) A (*b*) B (*c*) C (*d*) D

24. Name the boys studying in post-graduate classes.
(*a*) A, D (*b*) A, E (*c*) B, C (*d*) D, E

25. Name the boy who is not industrious and is average in studies.
(*a*) A (*b*) B (*c*) C (*d*) D

ANSWERS

Questions 1 to 5

A prefers tea. So, from (*iv*), the industrialist and D prefer coffee. But, from (*iii*), B and the journalist prefer coffee. So, B is the industrialist and D is the journalist.

Now, A, C and advocate remain. Clearly, E is the advocate.

The horticulturist is C's brother. It can be only A. C is a physicist.

	A	B	C	D	E
Profession	Horticulturist	Industrialist	Physicist	Journalist	Advocate
Preference	Tea	Coffee	Tea	Coffee	Tea

1. (*a*) : A is a horticulturist.
2. (*c*) : B is an industrialist.
3. (*e*) : Clearly, A and C are the persons who like tea but are not advocates.
4. (*d*) : C is the physicist.
5. (*e*) : Since all the statements are required to analyse the given data, none of them is superfluous.

Questions 6 to 10

I. A is a Hindu, B is a Sikh, E is a Muslim. Now, the doctor is a Christian and D is a cloth merchant. So, C is a Christian and D is a Hindu.

II. D stays in locality S. E stays in locality R. Now, one businessman *i.e.*, D and the lawyer stay in S. C is a doctor and A a factory owner. So, B is the lawyer and stays in locality S. C, the doctor, stays in locality P. Clearly, A stays in locality Q.

III. Clearly, A is a factory owner, B is a lawyer, C is a doctor, D is a cloth merchant and E is an engineer.

	A	B	C	D	E
Profession	Factory owner	Lawyer	Doctor	Cloth merchant	Engineer
Religion	Hindu	Sikh	Christian	Hindu	Muslim
Locality	Q	S	P	S	R

IV. B, the lawyer, is oldest. A, the factory owner, is the youngest. D, the cloth merchant lies between doctor and lawyer *i.e.* B and C in age.
So, agewise sequence is : B > D > C > E > A.

6. (*a*) : A stays in locality Q.
7. (*b*) : E is an engineer.
8. (*d*) : E lies between A and C. E is an engineer.
9. (*c*) : B is a lawyer.
10. (*a*) : C is a doctor.

Questions 11 to 15

We analyse the given information as follows :
Two are hill stations.
Three are plains of which two are harbours.
Four towns are capitals.
Two towns are industrial.
Two towns have population less than 5 lacs.
One town has population 20 lacs.
Two towns have population more than 50 lacs.
Two towns are on same latitudes.
B is a hill station. E is a harbour. Clearly, A which has the same longitude as E, cannot be a harbour and clearly, D having population 20 lacs cannot be an industrial town. So, it is a harbour. Thus, E and D are harbours.
Clearly, one harbour is industrial town but D is not. So, E is an industrial town with population more than 50 lacs. Clearly, longitudes of a hill station and industrial town are same. So, A having same longitude as E, is a hill station. Latitudes of D and C are same and D is a harbour. So, C cannot be a hill station. So, B is the other hill station. Thus, three plains are C, D, E. One industrial town is neither a hill station nor a harbour. So, C is an industrial town with population more than 50 lacs. Clearly, both harbours are capitals. So, E and D are capitals. The hill station A, having same longitude as a harbour, is also a capital. Population of D is 20 lacs. So, population of A and B is less than 5 lacs. Clearly, only one hill station is capital. So, C is the other capital.

11. (*c*) : Clearly, population of A and B is less than 5 lacs.
12. (*e*) : Clearly, B is not a capital.
13. (*d*) : Harbours are E and D, capitals are A, C, D and E and industrial towns are C and E. So, E is harbour, capital and industrial town.
14. (*c*) : Clearly, the industrial towns C and E have a population of more than 50 lacs.
15. (*e*) : The capitals are A, C, D and E. The hill stations are A and B. So, A is a hill station as well as a capital.

Questions 21 to 25

I. A and E are good in studies; C is poor in studies. The remaining two *i.e.* B and D are average in studies.
II. A comes from a rich family; E belongs to a poor family.
Now, B and D are average in studies. So, B and D come from middle-class families.
Now, C remains. So, C belongs to a poor family (because two boys come from poor families).
III. The students who are poor and average in studies are in under-graduate classes *i.e.* B, C and D.
The remaining two *i.e.* A and E study in post-graduate classes.
IV. B, C and E are industrious. A is not industrious. Now, two boys are not industrious. So, D is also not industrious.
V. Two boys interested in acting are not industrious. So, A and D are interested in acting. The boy interested in music comes from middle-class family. B and D come from middle-class families. But D is interested in acting. So, B is interested in music. E is not interested in any activity. Clearly, C is interested in sports.

21. (*c*) : C is interested in sports.
22. (*b*) : B is interested in music.
23. (*d*) : D is the middle-class family boy interested in acting.
24. (*b*) : A and E study in post-graduate classes.
25. (*d*) : D is not industrious and is average in studies.

SOME MISCELLANEOUS PUZZLES

EXERCISE 6H

Directions (*Questions 1 to 10*) : *Study the following information and answer the questions given below it.* **(M.B.A. 1977)**

A, B, C and D are four friends who do not mind exchanging items. A had two chessboards each costing Rs 500 and a record player. C originally had a cycle and a walkman. Each cricket bat costs Rs 700. Both D and C got a cricket bat from B. A gave his record player costing Rs 2000 to B. C got a camera costing Rs 1500 from D. The cycle C had costs Rs 1000 and the walkman costs Rs 700. B had three cricket bats at the beginning and D had two cameras total cost of which is Rs 5000. A gave one of his chessboards to C and took C's cycle. C gave his walkman to D.

1. Who did not have a cricket bat at the end of exchange of items ?
(*a*) A (*b*) B (*c*) C (*d*) D

2. Total cost of materials C had at the beginning was
(*a*) Rs 5000 (*b*) Rs 3000 (*c*) Rs 2100 (*d*) Rs 1700

3. After completion of exchange of items, A had with him an item which no one else had. What is the item ?
(*a*) Chessboard (*b*) Cycle (*c*) Record player (*d*) Walkman

4. At the beginning who had the costliest items ?
(*a*) A (*b*) B (*c*) C (*d*) D

5. In the process of exchange of items, B received an item from
(*a*) A (*b*) C (*c*) D (*d*) None of these

6. After exchange of items, B had
(*a*) one record player (*b*) one cricket bat
(*c*) one record player and one cricket bat
(*d*) one record player and one camera

7. After exchange of items, who had the items total cost of which is Rs 1500 ?
(*a*) A (*b*) B (*c*) C (*d*) D

8. Who incurred maximum loss after the exchange of items ?
(*a*) D (*b*) A (*c*) C (*d*) B

9. Who made profit after the exchange of items ?
(*a*) A and B (*b*) A and D (*c*) B and C (*d*) C and D

10. At the end of exchange of items, D had in his possession
(*a*) one cricket bat and one camera
(*b*) one camera, one walkman and one cricket bat
(*c*) one cricket bat and one walkman
(*d*) one camera and one walkman

Directions (*Questions 11 to 13*) : *Read the following information carefully and answer the questions given below it :*

The sum of the income of A and B is more than that of C and D taken together. The sum of the income of A and C is the same as that of B and D taken together. Moreover, A earns half as much as the sum of the income of B and D.

11. Whose income is the highest ?
(*a*) A (*b*) B (*c*) C (*d*) D

12. Which of the following statements is not correct ?

(*a*) A earns more than B. (*b*) B earns more than D.

(*c*) C earns more than D. (*d*) B earns more than C.

13. If A's income be Rs 80,000 per annum and the difference between the income of B and D be the same as A's income, B's income is

(*a*) Rs 40,000 (*b*) Rs 60,000 (*c*) Rs 80,000 (*d*) Rs 1,20,000

Directions (*Questions 14 to 18*) : *Study the information given below and answer the questions that follow :* **(M.A.T. 1998)**

A, B, C, D, E and F are cousins. No two cousins are of the same age, but all have birthdays on the same date. The youngest is 17 years old and the oldest E is 22. F is somewhere between B and D in age. A is older than B. C is older than D.

14. Which of the following is not possible ?

(*a*) D is 20 years old. (*b*) F is 18 years old.

(*c*) F is 19 years old. (*d*) F is 20 years old.

15. Which of the following could be the ages of D and C respectively, if B is 17 years old ?

(*a*) 18 and 19 (*b*) 19 and 21 (*c*) 18 and 20 (*d*) 18 and 21

16. Which of the following must be true if exactly two of the cousins are between C and F in age ?

(*a*) A is between F and D in age. (*b*) B is 17 years old.

(*c*) B is younger than D. (*d*) F is 18 years old.

17. If A is one year older than C, the number of logically possible orderings of all six cousins by increasing age is

(*a*) 2 (*b*) 3 (*c*) 4 (*d*) 5

18. Which of the following must be true if C is 19 years old ?

(*a*) A is 19 years old and D is 21. (*b*) B is 19 years old and A is 20.

(*c*) B is 20 years old and A is 21. (*d*) D is 17 years old and B is 21.

Directions (*Questions 19 to 22*) : *Read the following information carefully and answer the questions given below it :* **(S.B.I.P.O. 1995)**

There are five identical looking boxes having different objects in it and every box has a label indicating their contents. The following is the description of the contents and the label of each box :

Contents	Label
Two Pins	PP
Two Balls	BB
Two Clips	CC
One Pin and One Clip	PC
One Ball and One Clip	BC

Somebody has mischieviously interchanged these labels in such a way that no box contains the label correctly explaining its contents.

19. If the first box opened contained label PP and the second box opened contained label PC and out of the combined four items, one item was a Ball, which of the following will be definitely true ?

(*a*) Other three items will not contain two Balls.

(*b*) Other three items will not contain any Clip.

(*c*) Other three items will contain atleast one Clip.
(*d*) Other three items will not contain two Pins.
(*e*) None of these

20. If the first box, containing the label BC was opened and it was found that one item is a Ball, which of the following would be definitely true ?
(*a*) The other item may either be a Ball or a Clip.
(*b*) The other box with BB label will contain a Ball and a Clip.
(*c*) The other item will not be a Ball.
(*d*) The other item will also be a Ball.
(*e*) None of these

21. If the information is available that box PC does not contain either any Pin or any Clip and box PP does not contain any Pin and box CC contains one Clip and one Ball, which of the following will definitely be true if only one of the remaining boxes is opened ?
(*a*) It will have one Pin and one Clip.
(*b*) It will have atleast one Clip.
(*c*) It will have two Pins.
(*d*) It will have atleast one Pin.
(*e*) None of these

22. If the box PP contained two Clips, the box CC contained two Pins and the box BB contained atleast one Ball, which of the following will definitely be not true ?
(*a*) The box BC contains one Pin and one Clip.
(*b*) The box BB contains one Ball and one Clip.
(*c*) The box BC contains two Balls.
(*d*) The box PC contains two Balls.
(*e*) The box BB contains one Clip.

Directions : ***Questions 23 to 29 are based on the following information :***
(Hotel Management, 1998)

Priya and Promila are fast friends. Priya's father, Prem, is a police officer while Promila's father, Somesh, is an engineer. Prem and Somesh have a common friend in Rohan who has two children, Kunal and Renu. Priya and Kunal are college fellows while Promila and Renu are in the same class and study in another college. Promila and Kunal are good debaters and represent their colleges in inter-college debates. Renu writes poems while Priya is a good singer. Somesh is very proud of his daughter and often talks to his friends about her special talent in painting. Renu's father is a businessman and stays in the same locality where Prem stays while Somesh, who stays in another locality, is more intimate with Prem than with Rohan. Families of all the three persons stay with them.

In each of the following questions, two statements P and Q are given.

Mark your answer as (a) if both P and Q are true; (b) if one of the two is true and the other is wrong; (c) if both the statements are wrong; and (d) if it is not possible to draw any conclusion about the correctness or otherwise of either or both P and Q on the basis of information available in the above statement.

23. P : Priya and Promila read in different colleges.
Q : Promila is a good debater as also a good painter.

24. P : Rohan is an electronics engineer.
Q : Priya and Kunal are class-fellows.

25. P : Priya and Renu are college-fellows.
Q : Promila's father is more intimate with Renu's father than with Priya's father.

26. P : Somesh is a civil engineer.
Q : Priya and Renu are good debaters and represent their colleges in inter-college debates.

27. P : Rohan is a businessman.
Q : Renu and Priya stay in the same locality.

28. P : Promila's special talent has impressed her father very much.
Q : Rohan and Somesh stay in the same locality.

29. P : Rohan and Prem stay in the same locality.
Q : Renu and Kunal stay in the same locality.

Directions (*Questions 30 to 39*) : *Read the following passage carefully and answer the questions that follow :* **(M.B.A. 1997)**

Score Card of the final match of Sharjah Singer Cup 1996 is given below :

SCORE BOARD

Pakistan : Saeed Anwar c Fleming b Vaughan 1; Aamir Sohail st Germon b Patel 16; Shahid Afridi c Greatbatch b Larsen 21; Ijaz Ahmed c Fleming b Astle 10; Salim Malik lbw Cairns 40; Azam Khan c Greatbatch b Harris 22; Moin Khan lbw Cairns 32; Wasim Akram c Vaughan b Patel 0; Saqlain Mushtaq lbw Harris 0; Waqar Younis run out 0; Mushtaq Ahmed not out 4.

Extras : (lb-12, w-2); 14

Total : (all out in 48.5 overs); 160

Fall of wickets : 1-4, 2-32, 3-51, 4-63, 5-116, 6-120, 7-120, 8-138, 9-145.

Bowling : Vaughan 8-0-33-1; Larsen 9-1-22-1; Cairns 9.5-0-24-2; Astle 3-0-7-1; Harris 9-2-32-2; Patel 10-2-30-2.

New Zealand : Bryan Young b Akram 5; Mark Greatbatch c Ijaz b Mushtaq 52; Adam Parore lbw Saqlain 22; Nathan Astle c Mushtaq b Saqlain 8; Stephen Fleming lbw Younis 4; Chris Cairns lbw Akram 8; Chris Harris c Afridi b Mushtaq 2; Lee Germon lbw Akram 5; Dipak Patel lbw Afridi 1; Justin Vaughan not out 1; Gavin Larsen b Afridi 0.

Extras : (w-5, nb-6); 11

Total : (all out in 36.5 overs); 119

Fall of wickets : 1-7, 2-66, 3-81, 4-98, 5-102, 6-111, 7-114, 8-117, 9-119.

Bowling : Akram 8-1-20-3; Younis 8-0-22-1; Saqlain 8-0-32-2; Afridi 2.5-0-14-2; Mushtaq 10-0-31-2.

30. How many Pakistani batsmen were bowled by bowlers of New Zealand ?
(*a*) 0 (*b*) 1 (*c*) 2 (*d*) 3

31. Highest runs were scored in the match by the partnership of
(*a*) Aamir Sohail and Shahid Afridi (*b*) Mark Greatbatch and Adam Parore
(*c*) Moin Khan and Azam Khan (*d*) Salim Malik and Azam Khan

32. If runs per wicket is the criterion for evaluating bowling performance, then which bowler had the best bowling performance in the match ?
(*a*) Astle (*b*) Younis (*c*) Afridi (*d*) Akram

33. If number of balls per wicket is considered to evaluate bowling performance, then who was the best bowler of the match ?
(*a*) Patel (*b*) Larsen (*c*) Afridi (*d*) Akram

34. Performance of which bowlers were the same, where criterion for evaluation is number of runs per wicket ?

I. Harris and Saqlain II. Afridi and Harris

(*a*) Both I and II are true (*b*) I is true but II is false

(*c*) Both I and II are false (*d*) II is true but I is false

35. Which bowler of Pakistan had the worst bowling performance considering number of balls per wicket as the criterion ?

(*a*) Afridi (*b*) Younis (*c*) Mushtaq (*d*) Saqlain

36. How many leg before wickets were given in the match ?

(*a*) 6 (*b*) 7 (*c*) 8 (*d*) 9

37. Who was run out in the match ?

(*a*) Waqar Younis (*b*) Justin Vaughan

(*c*) Azam Khan and Waqar Younis (*d*) None of these

38. Who took maximum number of catches in the match ?

I. Stephen Fleming II. Mark Greatbatch III. Ijaz Ahmed

(*a*) I and II are true but III is false (*b*) Only II is true

(*c*) II and III are true but I is false (*d*) All are true

39. Which of the following statements is false ?

(*a*) Last wicket partnership of Pakistan added 15 runs.

(*b*) Only two were given stumped out in the match.

(*c*) Last wicket partnership of New Zealand could not add any run.

(*d*) Runs scored by the seventh wicket partnership of New Zealand were same as the runs scored by the eighth wicket partnership of New Zealand.

ANSWERS

Questions 1 to 10

Before exchange

Person	*Item*	*Worth*	*Quantity*	*Value*	*Total cost*
A	Chessboard Record player	Rs 500 Rs 2000	2 1	Rs 1000 Rs 2000	Rs 3000
B	Cricket bat	Rs 700	3	Rs 2100	Rs 2100
C	Cycle Walkman	Rs 1000 Rs 700	1 1	Rs 1000 Rs 700	Rs 1700
D	Camera 1 Camera 2	Rs 1500 Rs 3500	1 1	Rs 1500 Rs 3500	Rs 5000

After exchange

Person	*Item*	*Worth*	*Quantity*	*Value*	*Total cost*
A	Cycle Chessboard	Rs 1000 Rs 500	1 1	Rs 1000 Rs 500	Rs 1500
B	Record player Cricket bat	Rs 2000 Rs 700	1 1	Rs 2000 Rs 700	Rs 2700
C	Cricket bat Camera 1 Chessboard	Rs 700 Rs 1500 Rs 500	1 1 1	Rs 700 Rs 1500 Rs 500	Rs 2700
D	Cricket bat Walkman Camera 2	Rs 700 Rs 700 Rs 3500	1 1 1	Rs 700 Rs 700 Rs 3500	Rs 4900

1. (*a*) : A did not have a cricket bat after the exchange.

2. (*d*) : Before exchange, C had items worth Rs 1700.

3. (*b*) : A had a cycle, which no one else had.

4. (*d*) : At the beginning, D had the costliest items worth Rs 5000.

5. (*a*) : Clearly, B received a record player from A.

6. (*c*) : After exchange of items, B had a cricket bat and a record player.

7. (*a*) : After exchange, A had items worth Rs 1500.

8. (*b*) : Only A and D incurred losses in the deal.
Loss incurred by A = Rs (3000 – 1500) = Rs 1500.
Loss incurred by D = Rs (5000 – 4900) = Rs 100.

9. (*c*) : Clearly, B and C made profit after the exchange.
B's profit = Rs (2700 – 2100) = Rs 600.
C's profit = Rs (2700 – 1700) = Rs 1000.

10. (*b*) : Clearly, after exchange, D had a cricket bat, a walkman and a camera.

Questions 11 to 13

We have : $(A + B) > (C + D)$ ...(*i*)

$(A + C) = (B + D)$ ...(*ii*)

$A = \frac{1}{2}(B + D)$ ... (*iii*)

Putting $A = \frac{1}{2}(B + D)$ in (*ii*), we get $C = \frac{1}{2}(B + D)$. So, $A = C$.

Since $(A + B) > (C + D)$ and $A = C$ so $B > D$.
Thus, from (*iii*), we get $B > A$ and so $B > C$.

11. (*b*) : Clearly, B has the highest income.

12. (*a*) : Clearly, B earns more than A. So, (*a*) is false.

13. (*d*) : $A = 80000 = \frac{1}{2}(B + D)$ or $B + D = 2A = 160000$ ...(*iv*)

Also, $B - D = A = 80000$ ...(*v*)

Adding (*iv*) and (*v*), we get : $2B = 240000$ or $B = 120000$.

Questions 14 to 18

Given : E is oldest, A > B, C > D.
Thus, we have the following possible arrangements :

22		21		20		19		18		17	
E	>	A	>	B	>	F	>	C	>	D	...(*i*)
E	>	A	>	C	>	B	>	F	>	D	...(*ii*)
E	>	A	>	B	>	C	>	F	>	D	...(*iii*)
E	>	A	>	C	>	D	>	F	>	B	...(*iv*)
E	>	C	>	D	>	F	>	A	>	B	...(*v*)
E	>	C	>	D	>	A	>	F	>	B	...(*vi*)
E	>	C	>	A	>	B	>	F	>	D	...(*vii*)
E	>	C	>	A	>	D	>	F	>	B	...(*viii*)

14. (*a*) : Clearly, D is 20 years old in (*v*) and (*vi*). So, (*a*) is possible.
F is 18 years old in (*ii*), (*iii*), (*iv*), (*vi*), (*vii*), (*viii*). So, (*b*) is possible.
F is 19 years old in (*i*) and (*v*). So, (*c*) is possible.
But F is not 20 years old by any of the possibilities. So, (*d*) is not possible.

15. (*b*) : B is 17 years old in (*iv*), (*v*), (*vi*) and (*viii*).
In (*iv*), D's age is 19 years and C's age is 20 years.

In (*v*) and (*vi*), D's age is 20 years and C's age is 21 years.

In (*viii*), D's age is 19 years and C's age is 21 years.

16. (*d*) : There is a gap of two persons between C and F in (*vi*), (*vii*) and (*viii*) and in each of these cases, F is 18 years old.

17. (*a*) : Clearly, A is one year older than C in only two arrangements — (*ii*) and (*iv*).

18. (*c*) : Clearly, from (*iii*), it follows that if C is 19 years old, B is 20 years old and A is 21.

19. (*e*) : The information given is insufficient as to derive a particular conclusion. So, none of the given conclusions follows.

20. (*d*) : Since one item in the box is a Ball, so the box labelled BC may be, in fact, BB or BC. But it cannot be BC because it is given that no box contains the correct label. Thus, the box is BB and so the other item in it will also be a Ball.

21. (*d*) : Since the box PC does not contain a Pin or a Clip, so it is in fact the box BB and contains two Balls.

Since the box PP does not contain any Pin, so it is in fact either box BC or CC.

Since the box CC contains one Clip and one Ball, it is in fact box BC.

So, the box labelled PP is in fact box CC.

Now, the remaining two boxes are PP and PC. Thus, if any of them is opened, it will definitely contain one Pin.

22. (*c*) : Since box PP contains two Clips, it is in fact box CC.

Since box CC contains two Pins, it is in fact box PP.

Since box BB contains one Ball and no box carries the correct label, it is in fact box BC.

Now, remain the boxes labelled PC and BC which are in fact BB and PC.

Since no box carries the correct label, so box PC is in fact BB, and box BC is in fact PC. Thus, box BC contains one Pin and one Clip. So, (*c*) is false.

23. (*a*) : Clearly, Priya and Kunal study in the same college, and Promila and Renu study in the same class in a different college. So, P is true.

It is given that Promila is a good debater and Somesh's daughter (Promila) is good at painting. So, Q is also true.

24. (*c*) : Clearly, Renu's father, Rohan is a businessman. So, P is false.

Also, Priya and Kunal are college-fellows. So, Q is also not true.

25. (*c*) : Priya and Renu study in different colleges. So, P is false.

Promila's father, Somesh is more intimate with Priya's father, Prem than with Renu's father, Rohan. So, Q is also false.

26. (*d*) : It is mentioned that Somesh is an engineer. But that he is a civil engineer cannot be said for sure.

Also, Promila and Kunal are good debaters. So, Q is false.

27. (*a*) : According to the given information, Renu's father Rohan is a businessman. So, P is true.

Also, it is given that Renu's father and Prem stay in the same locality. This means that Renu and Prem's daughter, Priya stay in the same locality. So, Q is also true.

28. (*b*) : It is given that Somesh is much impressed with his daughter Promila's talent in painting. So, P is true.

Also, Renu's father, Rohan and Prem stay in the same locality while Somesh stays in another locality, So, Q is false.

29. (*a*) : Clearly, P is true.

Also, Renu and Kunal are both children of Rohan and so they live in the same locality. Thus, Q is also true.

30. (*a*) : Clearly, none of the Pakistani batsmen was bowled by bowlers of New Zealand.

31. (*b*) : From the section 'Fall of wickets' for Pakistan, we find that
the second and third players *i.e.* Aamir Sohail and Shahid Afridi together made (32 – 4) = 28 runs; the fifth and sixth players *i.e.* Salim Malik and Azam Khan together made (116 – 63) = 53 runs; the sixth and seventh players *i.e.* Azam Khan and Moin Khan made (120 – 116) *i.e.* 4 runs.
Similarly, in New Zealand team, the second and third players *i.e.* Mark Greatbatch and Adam Parore together made (66 – 7) *i.e.* 59 runs.

32. (*d*) : The bowler with the lowest value of runs per wicket would be the best performer.
From the 'Bowling' section, we find that runs per wicket for :

$$\text{Astle} = \frac{7}{1} = 7\,; \quad \text{Younis} = \frac{22}{1} = 22\,; \quad \text{Afridi} = \frac{14}{2} = 7\,; \quad \text{Akram} = \frac{20}{3} = 6.67$$

33. (*c*) : Clearly, the bowler with the lowest value of number of balls per wicket, would be considered the best.
From the 'Bowling section', we find that number of balls per wicket for :

$$\text{Patel} = \frac{10 \text{ overs}}{2 \text{ wickets}} = \frac{60 \text{ balls}}{2 \text{ wickets}} = 30 \text{ balls/wkt.}$$

$$\text{Larsen} = \frac{9 \text{ overs}}{1 \text{ wicket}} = 54 \text{ balls/wkt.}$$

$$\text{Afridi} = \frac{2.5 \text{ overs}}{2 \text{ wickets}} = \frac{15 \text{ balls}}{2 \text{ wickets}} = 7.5 \text{ balls/wkt.}$$

$$\text{Akram} = \frac{8 \text{ overs}}{3 \text{ wickets}} = \frac{48 \text{ balls}}{3 \text{ wickets}} = 16 \text{ balls/wkt.}$$

34. (*b*) : From the 'Bowling' section, we find that number of runs per wicket for :

$$\text{Harris} = \frac{32}{2} = 16\,; \quad \text{Saqlain} = \frac{32}{2} = 16\,; \quad \text{Afridi} = \frac{14}{2} = 7\,; \quad \text{Harris} = \frac{32}{2} = 16.$$

So, the performances of Harris and Saqlain are the same.

35. (*b*) : Clearly, the bowler with the highest value of number of balls per wicket would be the worst performer.
Now, number of balls per wicket for :

$$\text{Afridi} = \frac{2.5 \text{ overs}}{2 \text{ wickets}} = \frac{15 \text{ balls}}{2 \text{ wickets}} = 7.5 \text{ balls/wkt.;}$$

$$\text{Younis} = \frac{8 \text{ overs}}{1 \text{ wicket}} = 48 \text{ balls/wkt.;}$$

$$\text{Mushtaq} = \frac{10 \text{ overs}}{2 \text{ wickets}} = \frac{60 \text{ balls}}{2 \text{ wickets}} = 30 \text{ balls/wkt.;}$$

$$\text{Saqlain} = \frac{8 \text{ overs}}{2 \text{ wickets}} = \frac{48 \text{ balls}}{2 \text{ wickets}} = 24 \text{ balls/wkt.}$$

36. (*c*) : Clearly, leg before wickets (lbw) decisions were given in 8 cases : Salim Malik, Moin Khan, Saqlain Mushtaq, Adam Parore, Stephen Fleming, Chris Cairns, Lee Germon and Dipak Patel.

37. (*a*) : Clearly, only Waqar Younis was run out in the match.

38. (*a*) : From Pakistan's score, we find that :
Stephen Fleming took the catch of Saeed Anwar and Ijaz Ahmed *i.e.* 2 catches.
Mark Greatbatch took the catch of Shahid Afridi and Azam Khan *i.e.* 2 catches.
From New Zealand's score, we find that :
Ijaz Ahmed took the catch of Mark Greatbatch *i.e.* only 1 catch.

39. (*b*) : Clearly, only one (Aamir Sohail) was given stumped out in the match.

EXERCISE 61

(TRY YOURSELF)

1. Six roads lead to a country. They may be indicated by letters X, Y, Z and digits 1, 2, 3. When there is storm, Y is blocked. When there are floods, X, 1 and 2 will be affected. When road 1 is blocked, Z also is blocked. At a time when there are floods and a storm also blows, which road(s) can be used ?

(*a*) Only Y (*b*) Only Z (*c*) Only 3 (*d*) Z and 2

(I.A.S. 1996)

2. Six persons A, B, C, D, E and F are standing in a circle. B is between F and C; A is between E and D; F is to the left of D. Who is between A and F ?

(*a*) B (*b*) C (*c*) D (*d*) E

(M.B.A. 1998)

Directions (*Questions 3-4*) : *Read the following information carefully and answer the questions given below it :* **(Assistant Grade, 1998)**

(*i*) Mohan and Sumit are good in Chemistry and Biology.
(*ii*) Ashish and Mohan are good in Biology and Physics.
(*iii*) Ashish, Pratap and Neeraj are good in Physics and History.
(*iv*) Neeraj and Ashish are good in Physics and Mathematics.
(*v*) Pratap and Sumit are good in History and Chemistry.

3. Who is good in Physics, History and Mathematics, but not in Biology ?

(*a*) Pratap (*b*) Ashish (*c*) Mohan (*d*) Neeraj

4. Who is good in History, Physics, Biology and Mathematics ?

(*a*) Ashish (*b*) Neeraj (*c*) Pratap (*d*) Mohan

Directions (*Questions 5 to 8*) : *Study the information given below and answer the questions that follow :* **(M.B.A. 1997)**

There are four friends A, B, C, D. One of them is a cricketer and studies Chemistry and Biology. A and B play football. Both football players study Maths. D is a boxer. One football player also studies Physics. The boxer studies Maths and Accounts. All the friends study two subjects each and play one game each.

5. Who is the cricketer ?

(*a*) A (*b*) B (*c*) C (*d*) D

6. Who studies Accounts and plays football ?

(*a*) A (*b*) B (*c*) D (*d*) A or B

7. Who studies Physics ?

(*a*) A or B (*b*) A (*c*) B (*d*) D

8. How many games are played and subjects studied by the four friends ?

(*a*) 1 game and 4 subjects (*b*) 2 games and 3 subjects
(*c*) 3 games and 4 subjects (*d*) 3 games and 5 subjects

Directions (*Questions 9 to 11*) : *Read the following information and answer the questions given below it :* **(Bank P.O. 1998)**

(*i*) Sanchit, Kamal, Rahul, Madan and Tarun are five friends who stay in one building.
(*ii*) Each one owns a separate garage A, B, C, D and E and a different coloured car *viz.*, Red, Yellow, White, Black and Blue.

(*iii*) Kamal does not own either garage D or E. His car is of red colour.
(*iv*) Madan owns yellow coloured car and garage C.
(*v*) Tarun who owns garage A does not own black or white coloured car.

9. Who owns garage D ?
(*a*) Sanchit (*b*) Rahul (*c*) Either Sanchit or Rahul
(*d*) Owner of blue car (*e*) None of these

10. Who is the owner of blue coloured car ?
(*a*) Sanchit (*b*) Rahul (*c*) Tarun
(*d*) Data inadequate (*e*) None of these

11. Which of the following combinations of colour of car and garage is correct ?
(*a*) Blue — A (*b*) White — D (*c*) Red — B
(*d*) Black — D (*e*) None of these

Directions (*Questions 12 to 15*) : *Read the following information carefully and answer the questions given below it :* **(Bank P.O. 1997)**

(*i*) P, Q, R, S, T and U are six members of a family, each of them engaged in a different profession — Doctor, Lawyer, Teacher, Engineer, Nurse, Manager.
(*ii*) Each of them remains at home on a different day of the week from Monday to Saturday.
(*iii*) The Lawyer in the family remains at home on Thursday.
(*iv*) R remains at home on Tuesday.
(*v*) P, the Doctor does not remain at home either on Saturday or on Wednesday.
(*vi*) S is neither the Doctor nor the Teacher and remains at home on Friday.
(*vii*) Q is the Engineer and T is the Manager.

12. Who remains at home on Saturday ?
(*a*) Q or T (*b*) R (*c*) S (*d*) T (*e*) None of these

13. Which of the following combinations is not correct ?
(*a*) Q — Engineer (*b*) R — Teacher (*c*) S — Nurse
(*d*) T — Manager (*e*) All are correct

14. Who among them remains at home on the following day of the Nurse ?
(*a*) Q (*b*) Q or T (*c*) R (*d*) S (*e*) None of these

15. Which of the following combinations is correct ?
(*a*) Manager — Friday (*b*) Lawyer — Thursday (*c*) Nurse — Friday
(*d*) Teacher — Wednesday (*e*) Engineer — Thursday

Directions (*Questions 16 to 18*) : *Study the information given below and answer the questions that follow :* **(Bank P.O. 1998)**

(*i*) Six friends A, B, C, D, E and F are seated in a circle facing each other.
(*ii*) A is between D and B and F is between C and E.
(*iii*) C is third to the left of B.

16. Who is between B and F ?
(*a*) C (*b*) D (*c*) E (*d*) Cannot be determined (*e*) None of these

17. Who is between F and D ?
(*a*) D (*b*) E (*c*) B (*d*) Cannot be determined (*e*) None of these

18. Which of the following is the position of A in relation to F ?

(*a*) Second to the right (*b*) Second to the left

(*c*) Third to the right (*d*) Fourth to the right

(*e*) None of these

19. Seven students A, B, C, D, E, F and G are sitting in a row. C is sitting between A and D. E is between F and G and B is between D and F. A and G are at the two ends. D is sitting between **(C.B.I. 1997)**

(*a*) A and B (*b*) B and E (*c*) C and B (*d*) C and F

Directions (*Questions 20 to 24*) : *Read the following information carefully and answer the questions given below it :* **(Hotel Management, 1997)**

From a group of six boys M, N, O, P, Q, R and five girls G, H, I, J, K, a team of six is to be selected. Some of the criteria of selection are as follows :

M and J go together.

O cannot be placed with N.

I cannot go with J.

N goes with H.

P and Q have to be together.

K and R go together.

Unless otherwise stated, these criteria are applicable to all the following questions :

20. If the team consists of two girls and I is one of them, the other members are

(*a*) GMRPQ (*b*) HNOPQ (*c*) KOPQR (*d*) KRMNP

21. If the team has four boys including O and R, the members of the team other than O and R are

(*a*) HIPQ (*b*) GKPQ (*c*) GJPQ (*d*) GJMP

22. If four members are boys, which of the following cannot constitute the team ?

(*a*) GJMOPQ (*b*) HJMNPQ (*c*) JKMNOR (*d*) JKMPQR

23. If both K and P are members of the team and three boys in all are included in the team, the members of the team other than K and P are

(*a*) GIRQ (*b*) GJRM (*c*) HIRQ (*d*) IJRQ

24. If the team has three girls including J and K, the members of the team other than J and K are

(*a*) GHNR (*b*) MNOG (*c*) MORG (*d*) NHOR

25. Shekhar is taller than Kunal. Atul is taller than Pawan but not as tall as Kunal. Prashant is taller than Shekhar. Who among them is the shortest ?

(*a*) Pawan (*b*) Kunal (*c*) Shekhar (*d*) Atul

(M.B.A. 1998)

26. Seven persons P, Q, R, S, T, U and V participate in and finish all the events of a series of swimming races. There are no ties at the finish of any of the events. V always finishes somewhere ahead of P. P always finishes somewhere ahead of Q. Either R finishes first and T finishes last or S finishes first and U or Q finishes last. If in a particular race V finished fifth, then which one of the following would be true ? **(I.A.S. 1997)**

(*a*) R finishes second. (*b*) R finishes fourth.

(*c*) S finishes first. (*d*) T finishes third.

27. There are five bus stops A, B, C, D and E at equal intervals. C is not the middle stop. A and E are not terminal stops. C comes twice as many stops before D in upward journey as B comes after A. D is the first stop in downward journey. Which of the following gives the correct sequence of the stops in downward journey ?

(*a*) DACEB (*b*) DAECB (*c*) DCBAE (*d*) DEACB

28. A, B, C, D, E and F, not necessarily in that order, are sitting on six chairs regularly placed around a round table. It is observed that : **(I.A.S. 1998)**

A is between D and F.

C is opposite D.

D and E are not on neighbouring chairs.

Which of the following pairs must be sitting on neighbouring chairs ?

(*a*) A and B (*b*) A and C (*c*) B and F (*d*) C and E

Directions (*Questions 29 to 33*) : *Read the following information carefully and answer the questions given below it :* **(M.A.T. 1997)**

There is a group of five persons A, B, C, D and E. In the group, there is a Professor of Philosophy, a Professor of Psychology and a Professor of Economics. A and D are ladies who have no specialisation in any subject and are unmarried. No lady is a philosopher or an economist. There is a married couple in the group of which E is the husband. B is the brother of C and is neither a psychologist nor an economist.

29. Who is the Professor of Psychology ?

(*a*) A (*b*) B (*c*) C (*d*) D

30. Which of the following groups includes all the men ?

(*a*) BC (*b*) BE (*c*) ABC (*d*) BCD

31. Who is the Professor of Philosophy ?

(*a*) D (*b*) B (*c*) C (*d*) A

32. Who is the wife of E ?

(*a*) C (*b*) D (*c*) A (*d*) B

33. Who is the Professor of Economics ?

(*a*) A (*b*) B (*c*) C (*d*) E

Directions (*Questions 34 to 38*) : *Study the information given below and answer the questions that follow :* **(Bank P.O. 1998)**

(*i*) Six plays A, B, C, D, E and F are to be organised from Monday to Saturday *i.e.* 5th to 10th — one play each day.

(*ii*) There are two plays between C and D and one play between A and C.

(*iii*) There is one play between F and E and E is to be organised before F.

(*iv*) B is to be organised before A, not necessarily immediately.

(*v*) The organisation does not start with B.

34. The organisation would start from which play ?

(*a*) A (*b*) D (*c*) F (*d*) Cannot be determined (*e*) None of these

35. On which date is play E to be organised ?

(*a*) 5th (*b*) 6th (*c*) 7th (*d*) Cannot be determined (*e*) None of these

36. The organisation would end with which play ?

(*a*) A (*b*) B (*c*) D (*d*) Cannot be determined (*e*) None of these

37. Which day is play B organised ?

(*a*) Tuesday (*b*) Thursday (*c*) Friday

(*d*) Cannot be determined (*e*) None of these

38. Which of the following is the correct sequence of organising plays ?

(*a*) AECFBD (*b*) BDEFCA (*c*) DFECBA

(*d*) Cannot be determined (*e*) None of these

ANSWERS

1. (*c*)	**2.** (*c*)	**3.** (*d*)	**4.** (*a*)	**5.** (*c*)	**6.** (*d*)	**7.** (*a*)	**8.** (*d*)	**9.** (*c*)	**10.** (*c*)
11. (*c*)	**12.** (*a*)	**13.** (*e*)	**14.** (*b*)	**15.** (*c*)	**16.** (*c*)	**17.** (*e*)	**18.** (*c*)	**19.** (*c*)	**20.** (*c*)
21. (*b*)	**22.** (*c*)	**23.** (*a*)	**24.** (*c*)	**25.** (*a*)	**26.** (*c*)	**27.** (*d*)	**28.** (*d*)	**29.** (*c*)	**30.** (*b*)
31. (*b*)	**32.** (*a*)	**33.** (*d*)	**34.** (*b*)	**35.** (*c*)	**36.** (*a*)	**37.** (*a*)	**38.** (*e*)		