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**Assignment 10****Set 1**

A soloist will play six different guitar concerts, exactly one each Sunday for six consecutive weeks. Two concerts will be selected from among three concerts by Giuliani – H, J, and K; two from among four concerts by Rodrigo – M, N, O and P; and two from among three concerts by Vivaldi – X, Y and Z. The following conditions apply without exception:

- I. If N is selected, then J is also selected.
- II. If M is selected, then neither J nor O can be selected.
- III. If X is selected, then neither Z nor P can be selected.
- IV. If both J and O are selected, then J is played at some time before O.
- V. X cannot be played on the fifth Sunday unless one of Rodrigo's concerts is played on the first Sunday.

**1.** Which one of the following is an acceptable selection of concerts that the soloist could play on the first through the sixth Sunday in the given order?

- (1) HZMNYK
- (2) KJYOZN
- (3) KYPJZM
- (4) PYJHXO

2. If the six concerts to be played are J, K, N, O, Y, and Z and if N is to be played on the first Sunday, then which one of the following concerts CANNOT be played on the second Sunday?

- (1) J
- (2) K
- (3) O
- (4) Y



**3.** If J, O, and Y are the first three concerts to be played, not necessarily in the order given, which one of the following is a concert that CANNOT be played on the fifth Sunday?

- (1) X
- (2) K
- (3) N
- (4) P

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4. If O is selected for the first Sunday, which one of the following is a concert that must also be selected?

- (1) J
- (2) K
- (3) M
- (4) N



**5.** Which one of the following is a concert that must be selected?

- (1) J
- (2) K
- (3) O
- (4) Y

6. Which one of the following is a concert that CANNOT be selected together with N?

- (1) M
- (2) O
- (3) P
- (4) X

**Set 2**

An art teacher will schedule exactly six of eight lectures – Fresco, History, Lithography, Naturalism, Oils, Pastels, Sculpture, and Watercolors – for three days – 1, 2, and 3. There will be exactly two lectures each day – morning and afternoon. Scheduling is governed by the following conditions:

- I. Day 2 is the only day for which Oils can be scheduled.
- II. Neither Sculpture nor Watercolors can be scheduled for the afternoon.
- III. Neither Oils nor Pastels can be scheduled for the same day as Lithography.
- IV. If Pastels is scheduled for day 1 or day 2, then the lectures scheduled for the day immediately following Pastels must be Fresco and History, not necessarily in that order.

**7.** Which one of the following is an acceptable schedule of lectures for day 1, 2 and 3, respectively?

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| (1) Morning: Lithography, History, Sculpture    | Afternoon: Pastels, Fresco, Naturalism   |
| (2) Morning: Naturalism, Oils, Fresco           | Afternoon: Lithography, Pastels, History |
| (3) Morning: Oils, History, Naturalism          | Afternoon: Pastels, Fresco, Lithography  |
| (4) Morning: Sculpture, Lithography, Naturalism | Afternoon: Watercolors, Fresco, Pastels  |

8. If Lithography and Fresco are scheduled for the afternoon of day 2 and day 3, respectively, which one of the following is a lecture could be scheduled for the afternoon of day 1?

- (1) History
- (2) Oils
- (3) Pastels
- (4) Sculpture





9. If Lithography and History are scheduled for the mornings of day 2 and day 3, respectively, which one of the following lectures could be scheduled for morning of day 1?

- (1) Fresco
- (2) Sculpture
- (3) Oils
- (4) Pastels

**10.** If Oils and Lithography are scheduled for the morning of day 2 and day 3, respectively, which one of the following CANNOT be scheduled for any day ?

- (1) Fresco
- (2) History
- (3) Naturalism
- (4) Pastels



**11.** If neither Fresco nor Naturalism is scheduled for any day, which one of the following must be scheduled for day 1?

- (1) History
- (2) Lithography
- (3) Oils
- (4) Pastels

12. If the lectures scheduled for the mornings are Fresco, History, and Lithography, not necessarily in that order, which one of the following could be true?

- (1) Lithography is scheduled for day 3.
- (2) Naturalism is scheduled for day 2.
- (3) Fresco is scheduled the same day as Naturalism.
- (4) History is scheduled the same day as Oils.



**Set 3**

Seven friends T, N, P, M, R, F and K have to travel by car. Two cars are available.

I. T must travel in the same car as R.

II. F cannot be in the same car as P unless M is also in the car.

III. Not more than 4 people can travel in a car.

IV. Neither N nor P can be assigned to the same car as K.

**13.** If N travels in the same car as R and T, then who can be the fourth person in the car?

(1) P only

(2) M only

(3) either F or M

(4) P or F or M

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14. If F and P travel in the same car, then who else of the following could be in the same car?

- (1) T
- (2) R
- (3) K
- (4) N



**15.** Which of the following can be the combination of passengers in any one car?

- (1) T-K-R-M
- (2) F-P-M-K
- (3) T-F-P-M
- (4) None of these

16. If car containing only 3 people has to include K, which of the following persons cannot be present in that car?

- (1) T
- (2) F
- (3) M
- (4) All these can be present





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17. If F and P are in the same car, how many passengers can be present in that car?

- (1) 3 only
- (2) 4 only
- (3) either 3 or 4
- (4) F & P cannot be in same car.

**Set 4**

Nine individuals - Z, Y, X, W, V, U, T, S and R - are the only candidates, who can serve on three committees- A, B and C, and each candidate should serve on exactly one of the committees.

- i. Committee A should consist of exactly one member more than committee B.
- ii. Only committee C having no members is acceptable, others should have atleast 1.
- iii. Among Z, Y and X none can serve on committee A.
- iv. Among W, V and U none can serve on committee B.
- v. Among T, S and R none can serve on committee C.

**18.** In case T and Z are the only individuals serving on committee B, how many of the nine individuals should serve on committee C?

- (1) 3
- (2) 4
- (3) 5
- (4) 6



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**19.** Of the nine individuals, the largest number that can serve together on committee C is

- (1) 9
- (2) 8
- (3) 7
- (4) 6

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**20.** In case R is the only individual serving on committee B, which among the following should serve on committee A?

- (1) W and S
- (2) V and U
- (3) T and S
- (4) U and S



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**21.** In case none of the nine individuals serves on committee C, which among the following should be the candidate to serve on committee A?

- (1) Z
- (2) Y
- (3) W
- (4) T

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**22.** In case T, S and X are the only individuals serving on committee B, the total membership of committee C should be:

- (1) Z and Y
- (2) Z and W
- (3) Y and V
- (4) Y and U



**23.** Among the following combinations which could constitute the membership of committee C?

- (1) Y and T
- (2) X and U
- (3) Y, X and W
- (4) W, V and U

**Set 5**

Geological survey of India will conduct a survey in the Himalayan Range. Two teams of minimum three people will be sent for doing the survey. There are seven men A, B, C, D, E, F and G who will go for the survey. The men are experts in one of the fields out of Map surveying, Data interpretation, Palaeontology and Seismology. And each of these fields has atleast one person specialising in it. Further, every group must have atleast one Palaeontologist and one Seismologist. The group formation must follow the following instructions:

- i. A and B are Map surveyors and they cannot be together.
- ii. D and E are Seismologists.
- iii. C and G cannot be together.
- iv. If B is in any of the teams, then he is always in G's group.
- v. F is a Palaeontologist.

**24.** If F is in the same group with B, then C must be specialized in which field?

- (1) Palaeontologist
- (2) Seismology
- (3) Map surveying
- (4) Data interpretation





**25.** If F cannot go, then what must be the specialization of G?

- (1) Palaeontology
- (2) Seismology
- (3) Map surveying
- (4) Data inconsistent

26. If D cannot be in the same group of F, then who of the following must always be in the group of F?

- (1) A
- (2) C
- (3) E
- (4) None of them



**27.** If C is in the field of Data interpretation, then who must always be in the same group of C?

- (1) B
- (2) D
- (3) F
- (4) E

**28.** If B is not in any of the group, then which pair of the following cannot be in the same group of A?

- (1) G and E
- (2) C and E
- (3) C and F
- (4) Any of the above

