

## NAT II Physical Science Analytical

Sr	Questions	Answers Choice
1	<p>Six candidates .... Ali, Amin, Omer, Hamza, Saleem and Osama are being interviewed for a job. The interview will take place over four consecutive days, starting on Thursday, Each candidate will have only one interview. The day on which the different candidates will interview must confirm to the following conditions:</p> <p>(i) At least one interview will take place each day  (ii) No more than two interviews will take place on any day  (iii) No more than three interviews will take place on any two consecutive days  (iv) Ali's interview must take place on Saturday.  (v) Amin's interview must place on the same with another interview.  (vi) Saleem's interview must take place on the day before Osama's interview  (vii) Omer's interview must take place on a day after Hamza's interview.</p> <p>Q: If the director decides to take two interviews on Thursday and two on Sunday, how many candidates would be eligible to interview on Friday?</p>	<p>A. 1  B. 2  C. 3  D. 4  E. 5</p>
2	<p>Six candidates .... Ali, Amin, Omer, Hamza, Saleem and Osama are being interviewed for a job. The interview will take place over four consecutive days, starting on Thursday, Each candidate will have only one interview. The day on which the different candidates will interview must confirm to the following conditions:</p> <p>(i) At least one interview will take place each day  (ii) No more than two interviews will take place on any day  (iii) No more than three interviews will take place on any two consecutive days  (iv) Ali's interview must take place on Saturday.  (v) Amin's interview must place on the same with another interview.  (vi) Saleem's interview must take place on the day before Osama's interview  (vii) Omer's interview must take place on a day after Hamza's interview.</p> <p>Q: If Hamza and Osama have their interviews on the same day which of the following be must be true?</p>	<p>A. Hamza's interview will take place on Thursday  B. Saleem's interview will take place on Friday  C. Amin's interview take place on Saturday  D. Osama's interview will take place on Saturday  E. Amin's interview will take place on Sunday</p>
3	<p>Six scientists A, B, C, D, E and F are to present a paper each at a one-day conference. Three of them will present their paper in the morning session before the lunch break whereas the other three will present in the afternoon session. The lectures have to be scheduled in such a way that they comply with the following restrictions:</p> <p>B should present his paper immediately before C's presentation; their presentations cannot be separated by the lunch break. D must be either the first or the last scientist to present his paper.</p> <p>Q: In case F is to present his paper immediately after D presents his paper, C could be scheduled for which of the following places in the order of presenters?</p>	<p>A. First  B. Second  C. Third  D. Fourth  E. Fifth</p>
4	<p>Selfishness is a principal evil in our society. Every person is concerned with only himself. Personal advancement is the only motivating force in the world today. This does not mean that individuals are not willing to help one another, on the contrary, ----- . However, these are only short-term occurrences, which ultimately serve our long-term goal of personal gain.</p> <p>Q: There is clear evidence that the mandated vaccination of children under age four has resulted in fewer child fatalities over the past five years. Compared to the five-year period prior to the passage of laws requiring the vaccination, fatalities of children under age four have decreased by 30 percent. Which one of the following, if true, most substantially strengthens the argument above?</p>	<p>A. The fatality rate for other age groups has remained steady over the past five years.  B. Air pollution has been increased over the period of past five years.  C. Government has implemented a malaria control campaign last year  D. Health conditions in the country are better than has been previously.  E. Death rate of pregnant women has decreased.</p>

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- A. People should not be held accountable for the behavior of other people.
- B. People have control over their own behavior.
- C. People cannot control the behavior of other people.
- D. Behavior that cannot be controlled should not be punished.**
- E. People have control over behavior that is subject to capital punishment.

Q: People should be held accountable for their own behavior, and if holding people accountable for their own behavior entails capital punishment, then so be it. However, no person should be held accountable for behavior over which he or she had no control. Which of the following is the most logical conclusion of the argument above?

A railway track from Lahore to Islamabad consists of six main stations, P, Q, R, X, Y, and Z. Trains run only according to the following condition:

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- (i) Frm P to Q
- (ii) From Q to P and from Q to R
- (iii) From R to X
- (iv) From X to Q and from X to Y
- (v) From Z to P, from Z to Y and from Z to R
- (vi) From Y to X
- (vii) It is possible to transfer a station for another train.

- A. 4
- B. 5
- C. 6**
- D. 3
- E. 2

Q. The greatest number of stations that can be visited without visiting any station more than once, is:

In a factory control room, there are three ON-OFF switches on the central control panel, labeled A, B and C. They are changed from default setting to a required setting based on the following rules:

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In case only switch A is ON in the default setting, then turn switch B ON.

- A. A ON, B ON, C ON.
- B. A ON, B ON, C OFF.
- C. A ON, B OFF, C ON.**
- D. A ON, B OFF, C OFF.
- E. A OFF, B ON, C OFF.

In case switches A and B are the only switches ON in the default setting, then turn switch C ON. In case all the three switches are ON, in default setting, then turn the switch C OFF. For any other default setting, turn ON all switches that are OFF and turn OFF all switches, if any, that are ON.

Q: In case, switch A is OFF in the second setting. Which of the following could have been the default setting?

8

Multan Institute of Higher Studies plans to show five educational films A, B, C, D and E to a group of students. The film shows are planned in an order, which conforms to the following conditions:

- A. A
- B. B
- C. C**
- D. D
- E. E

A must be shown earlier than C.

B must be shown earlier than D.

E should be the fifth film shown.

Q: In case, D is to be shown earlier than A, then for which of the following these exactly one position from through fifth in which it can be scheduled to be shown?

9

Four captains and the first mates of three of them were called to attend the annual meeting at head quarter. The captains were Luqman, Manzoor, Nauman and Osaf; the first mates were Ayesha, Durya and Gia. Each person in turn delivered a report to the chairperson as follows:

- A. Second
- B. Third
- C. Fourth**
- D. Fifth
- E. Sixth

Each of the first mates delivered their report exactly after her captain. The first captain to speak was Manzoor, and captain Nauman spoke after him.

(Represent the person with first letter of his name)

Q: In case A spoke immediately after L and immediately before O, and O was not the last speaker, L spoke

10

In an in vitro study, 160 white cats were injected with Salt X. 160 other white cats injected with placebo. In two weeks, 39% of the white cats, who were injected with Salt X showed symptoms of Kay fever. Hence, it can be concluded that Kay fever is caused by some elements similar to the elements in Salt X.

Q: Which of the following would most strengthen the argument above?

A. Some of the elements in Salt X are extracted from the root of a certain poisonous herb of Hunza.

B. The blood test of the victims of Kay fever revealed the presence of a toxic element in their blood, normally found in salt X.

C. Almost all the white cats died within two days after the first symptom appeared.

D. Normally the rate of Kay fever among white cats is less than 0.01%.

E. Within two weeks, about 40% of the white cats, who were injected with placebo, also contracted Kay fever.

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Q: In an examination, Rizwana has more marks than Fauzia. Shugufta has fewer marks than Zahid. Fauzia and Abid have more marks than Shugufta. If the above is true, which of the following must also be true?

A. Fauzia has fewer marks than Shugufta.

B. Rizwana has more marks than Shugufta

C. Fauzia has fewer marks than Zahid.

D. Zahid has more marks than Rizwana.

E. Zahid has more marks than Abid.

12

Follow us to the real Pakistan leaving behind the disturbances of civilization. Real Pakistan is still inhabited by the eagle, the cow, the black deer, and tigers; it is still spacious, sprawling, and majestic. Experience the freedom and serenity still to be found in -----.

Q: Everything that the king knows necessarily is, because even what we ourselves know necessarily is; and, of course, our knowledge is not as certain as King's knowledge is. However, no future contingent thing necessarily is. Among the following statements, which naturally follows from the above:

A. There are no future contingent things.

B. It is not true that the king has knowledge of only necessary things.

C. The king has knowledge of no contingent future things.

D. It is not possible for us to know the king.

E. The king has knowledge of everything.

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Q: Classical songs occupy a unique and peculiar position in every culture. They are imperishable as cultural landmarks, but the emotions expressed in some of the folks are often superseded by newer tunes. However, the classics survive just as heritage, as imposing features of the society, yet unsuited for habitation unless remodeled. The principle point put forth in the above passage is that classical works

A. Are ignored by young generation  
B. Are an obstacle in the development in new tunes  
C. Should be stored in museums.

D. Lose their distinctive features as time passes.

E. Need our respect and admiration even if their tunes and ideas they express are no longer current.

14

Nine Individuals – Z, Y, X, W, V, U, T, S AND R are the only candidates, who can serve on three committees labeled A, B and C.

Each candidate should serve on exactly one of the committees.

Committee A should consist of exactly one member more than that of committee.

It is possible that there are no members of committee C. Among Z, Y and X none can serve on committee A. Among W, V and U none can serve on committee C. Among T, S and R none can serve on committee C.

Q: Among the following combinations which could constitute the membership of committee C?

A. Y and T

B. X and U

C. Y, X and W

D. W, V and U

E. Z, X, U and R

15

An Internal Services Manager at a large corporation has been assigned the task of allotting offices to six of the staff members. The offices are titled A through F.

Mrs. Ruby needs to use the telephone quite often throughout the day. Mr. Mujahid and Mr. Zahid need adjacent offices as they need to consult each other often while working. Mrs. Fauzia is a senior employee and has to be allotted the office marked E, having the biggest window. Mr. Abid requires silence in the offices next to his. Mr. Shahid, Mr. Mujahid and Mr. Abid are all smokers. Mrs. Fauzia requires non-smoker neighbors.

A. B

B. F

C. A

D. C

E. D

Unless specifically stated all the employees maintain an atmosphere of silence

during office hours.

Q: The idea office for Mr. Mujahid would be.

Nine Individuals – Z, Y, X, W, V, U, T, S AND R are the only candidates, who can serve on three committees labeled A, B and C.

Each candidate should serve on exactly one of the committees.

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Committee A should consist of exactly one member more than that of committee.

It is possible that there are no members of committee C. Among Z, Y and X none can serve on committee A. Among W, V and U none can serve on committee C. Among T, S and R none can serve on committee C.

- A. Z and Y
- B. Z and W
- C. Y and V
- D. Y and U
- E. X and V

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

An Internal Services Manager at a large corporation has been assigned the task of allotting offices to six of the staff members. The offices are titled A through F.

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- A. Mrs. Fauzia
- B. Mr. Mujahid
- C. Mr. Shahid
- D. Mr. Abid
- E. Mrs. Ruby

Unless specifically stated all the employees maintain an atmosphere of silence during office hours.

Q: The idea candidate to occupy the office farthest from Mr. Zahid would be.

18

A chemist is preparing a nutrient using eight different vitamins and minerals ....A, B, C, D, E, H, F(Ferric), and Z(Zinc). According to the recipes, the following requirements apply to the use of ingredients:

- (i) If B is used, both C and Z must also be used
- (ii) E and H must always be used together
- (iii) If C is used, at least two of A, B and F must also be used
- (iv) C and H cannot be used together
- (v) E, F and Z cannot all be used in a same nutrient
- (vi) A, D, and Z cannot all be used in the same nutrient

- A. A, D, Z
- B. B, H, E
- C. C, D, H
- D. C, E, Z
- E. E, H, F

Q: By the addition of exactly one more mineral, which of the following could make an acceptable combination of vitamins and minerals?

19

Two or more tealeaves out of five varieties – Livana, Mathia, Novajana, Oxia, and Piask are used in making all branded by a marketer following the rules given below.

A brand containing Livana, should also contain Novajana twice that of Livana.

A brand containing Mathia, must also have equal quantity of Oxia.

- A. Livana and Mathia
- B. Livana and Novajana
- C. Livana and Piask
- D. Mathia and Oxia
- E. Piask and Novajana

A single brand never contains Novajana as well as Oxia.

Oxia and Piask should not be used together.

A blend containing Piask should contain it in such a proportion that the total amount of Piask present should be greater than the total amount of the other tealeaves

Q: Among the following, which combination cannot be used together in an agreeable brand containing two or more types of tealeaves?

In a factory control room, there are three ON-OFF switches on the central control panel, labeled A, B and C. They are changed from default setting to a required setting based on the following rules:

- In case only switch A is ON in the default setting, then turn switch B ON.
- 20 In case switches A and B are the only switches ON in the default setting, then turn switch C ON. In case all the three switches are ON, in default setting, then turn the switch C OFF. For any other default setting, turn ON all switches that are OFF and turn OFF all switches, if any, that are ON.
- Q: In case, in default setting the switches A and B are ON and the switch C is OFF, then what could be the second setting?
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