

## NAT II Physical Science Analytical

Sr	Questions	Answers Choice
1	<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: B could be placed at any of the following places in the order of presenters EXCEPT</p>	<p>A. First            B. Second  <b>C. Third</b>            D. Fourth            E. Fifth</p>
2	<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: 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. Q: In case C is to be the fifth scientist to present his paper, then B must be</p>	<p>A. First            B. Second  <b>C. Third</b>  <b>D. Fourth</b>            E. Fifth</p>
3	<p>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.</p> <p>Each candidate should serve on exactly one of the committees.</p> <p>Committee A should consist of exactly one member more than that of committee.</p> <p>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.</p> <p>Q: In case, any of the nine individuals serves on committee C, which among the following could not be the candidate to serve on committee A?</p>	<p>A. R            B. Y  <b>C. W</b>            D. T            E. S</p>
4	<p>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:</p> <p>In case only switch A is ON in the default setting, then turn switch B ON.</p> <p>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.</p> <p>Q: Which of the following default settings leads to a second setting, where only one switch is OFF?</p>	<p>A. A ON, B ON, C OFF.            B. A ON, B OFF, C ON.            C. A OFF, B ON, C ON.  <b>D. A OFF, B ON, C OFF.</b>            E. A OFF, B OFF, C OFF.</p>
5	<p>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:</p> <p>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.</p> <p>(Represent the person with first letter of his name)</p> <p>Q: Which of the following order of delivering report is not conformable with the conditions?</p>	<p>A. M, A, N, G, O, L, D            B. M, D, N, G, L, O, A            C. M, N, A, L, D, O, G            D. M, N, A, O, D, L, G  <b>E. M, N, G, D, O, L, A</b></p>

6 Rizwan was born in 1956, and so in 7965 he was nine years old. If we per use this example, it is clear that the last two digits of a person's birth will be the same as the last two digits of the year of that person's ninth birthday, except that the position of the digits will be reversed. Identify, which is the best criticism of the assertions made above.

- A. The generalization is valid only for those, in which last digit of their birth years is greater than four.
- B. The generalization is applicable only for those birth years that do not end in two zeroes.
- C. This example is not best illustration of the fact
- D. The generalization is valid only for those birth years in which the difference of the last two digits is one
- E. The generalization is valid only for those birth years that ends with 6

7 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 must be shown earlier than C.

B must be shown earlier than D.

E should be the fifth film shown.

Q: In case D and E are shown as far apart from each other as possible, which among the following would be true?

- A. A is shown earlier than B
- B. B is shown earlier than C
- C. C is shown earlier than E
- D. D is shown earlier than A
- E. E is shown earlier than B

8 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.

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, only switch B is ON in the second setting. Which of the following could have been the default setting?

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

9 An observatory is setting up a schedule for school children to view a returning comet. Five school classes K, L, N, O, and P-will each view the comet exactly once during the four nights. Monday through Thursday, of its maximum brightness. Excellent viewing conditions 'are predicated for all four nights. The scheduling is subject to the following constraints:

At most two classes can view the comet on any given night.

Class K cannot view the comet on the same night that Class N does.

Class L must view the comet on a night prior to the night when Class P views the comet.

Class O must view the comet on the same night that Class P does.

Q: If Class O can view the comet neither on Wednesday nor on Thursday, which of the following must be true?

- A. Class K view s the comet on Monday.
- B. Class L views the comet on Monday.
- C. Class L views the comet on Tuesday.
- D. Class N views the comet on Wednesday.
- E. Class views the comet on Thursday.

10 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: of the nine individuals, the largest number that can serve together on committee C is

- A. 9
- B. 8
- C. 7
- D. 6
- E. 5

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:

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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

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

One's ability to adjust in an environment successfully leads to happiness. War at a universal level destroys the weaker people, who are the most unable to adjust to their environment. Thus, war at the universal level puts weaklings out of their misery and allows more space for their predators to enjoy life in a better manner. As those actions have to be performed, which maximize the level of happiness of the greatest number, war at a universal level should take place.

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Q: What response would the author of the above discussion come up with, in the case of the objection that the weaklings far exceed strong people?

I- He would respond with statement that the person making the objection is a weakling.

II- He would respond by saying that weaklings will be miserable no matter what happens.

III- He would respond with statement that the strong would be frustrated if the weaklings are destroyed.

- A. I only
- B. II only
- C. III only
- D. I and II only
- E. II and III only

One's ability to adjust in an environment successfully leads to happiness. War at a universal level destroys the weaker people, who are the most unable to adjust to their environment. Thus, war at the universal level puts weakling out of their misery and allows more space for their predators to enjoy life in a better manner. As those actions have to be performed, which maximize the level of happiness of the greatest number, war at a universal level should take place.

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Q: The author's discussion would be greatly weakened, if he agreed to which of the following?

I- Technology could change the environment.

II- War at the universal level would be an integral part of the environment.

III- It is possible for the strong to survive without suppressing the weak.

- A. I only
- B. II only
- C. III only
- D. I and III only
- E. I, II and III only

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.

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Q: Many people especially the experts in the field of forestry are against all forest fires. They demand that all forest fires show that in the long run, forest fires may in fact, be beneficial to the ecology as a whole. Among the following, which statement would logically follow from one of the observations referred to in the passage above?

- A. The reason of almost all forest fires is natural.
- B. Human beings try to extinguish the fire for gaining heat.
- C. Studies indicate that forest fires regularly occurred in the times prior to human occupation of forest areas.
- D. The animal and plant life destroyed by forest fires seldom represents endangered species.
- E. Occasionally, the small fire prevents a large scale fire by the accumulation of flammable materials.

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 -----.

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Q: If I am elected, I will fight for changes effecting the growth and prosperity of the poor. We will work together to do away with the bureaucratic bogs which have existed ever since my opponent took office. Every one of you knows what I stand for; I invite my opponent to -----.

- A. Extend his support to me
- B. Make his mind clear
- C. Stop lying to the public
- D. Hand in his resignation graciously
- E. Get our city more federal aid

E to a group of students. The film shows are planned in an order, which conforms to the following conditions:

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A must be shown earlier than C.

B must be shown earlier than D.

E should be the fifth film shown.

Q: Which among the following is the pair of films that CANNOT be shown right before E?

- A. A and B
- B. A and D
- C. B and C
- D. B and D
- E. C and D

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.

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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 of following which is an acceptable brand in accordance with the rules?

- A. One part Livana, one part Piask
- B. Two parts Mathia, two parts Livana
- C. Three parts Novajana, three parts Livana
- D. Four parts Oxia, four parts Mathia
- E. Five parts Piask, five parts Mathia

A chemist is preparing a nutriment 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

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(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 nutriment

Q: Which of the following cannot be included in a nutriment that contains E?

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

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.

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Q: Which among the following options would most strongly contradict the author's attitude towards society?

- A. The greatest of society is altruism.
- B. We must all learn the art of love.
- C. Our short-term actions may contradict our long-term goals.
- D. Morality is the bedrock of a growing community.
- E. The forces of good will ultimately triumph over evil.

At IOWA University, Students of Economics must complete a total to twelve courses selected from three different parts of the syllabus .... Comparative economics, environmental economics, and regional economics... in order to graduate, the students must meet the following course distribution requirements:

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(i) At least six of the required twelve course must be from the environmental economics.

(ii) At least five of the required twelve courses must be from comparative economics and regional economics, with at least one, but no more than three, selected from comparative economics.

Q: The minimum number of regional economics courses required to fulfil the course distribution requirements is

- A. 1
- B. 3
- C. 5
- D. 2
- E. 4