Sample Paper NAT IE

Instructions

Total number of Sections = 07
Total number of Questions = 32
Time Allowed = 38 minutes

The Sample Paper is totally MCQ Based, consisting of Question statements and four/five (i.e. A-D/E) Answer choices. You have to select the correct answer choice.

Instructions about Answer Sheet + Right Answer Keys are at the end of Exercise.

Note: This sample paper does not include quantitatively the same number of questions as there would be in actual paper. This is merely meant to provide conceptual guidance to the users or prospective candidates.
VERBAL

Complete the sentences by choosing the most appropriate word, from the given lettered choices (A to D) below each.

1. Earthquakes cause vibrations to pass _____ around the earth in wave form.
   A. through
   B. through the
   C. through an
   D. through and

Each question below consists of a related pair of words, followed by five lettered pairs of words. Select the lettered pair that best expresses a relationship similar to that expressed in the original pair.

2. MAN: ROBOT::
   A. original: counterfeit
   B. true: sham
   C. brain: computer
   D. object: image

Choose the lettered word or phrase that is most nearly opposite in meaning to the word in capital letters.

3. COVETOUS:
   A. Greedy
   B. sympathetic
   C. generous
   D. niggardly

Choose the word most similar in meaning to the capitalized ones.

4. BATTERY:
   A. ambush
   B. corner
   C. precarious
   D. group
   E. delirium
Read the passage to answer question 5-8

Since the 1980s, the biggest influence on business has been electronic technology. Computers are being used for inventory control, sales analysis and forecasting, distribution control, and budget analysis. At-home electronic shopping is becoming commonplace. With this system, consumers view merchandise on a computer monitor and then use a modem, which links the computer to a telephone line, to signal the goods they want to order. Just as traveling salesman once brought wares to the home, electronic technology makes it possible for modern consumers to see and select from any array of goods in their homes.

5. The word “forecasting” is closest in meaning to
   A. prediction
   B. efficiency
   C. accounting
   D. decision making

6. The word “modem” refers to a type of
   A. electronic shopping
   B. electronic device
   C. telephone
   D. computer screen

7. The word “wares” is closest in meaning to
   A. clothing
   B. items for sale
   C. messages
   D. household appliances

8. The word “array” is closest in meaning to
   A. pair
   B. container
   C. category
   D. collection
ANALYTICAL REASONING

According to Albert Einstein’s famous theory of relativity, time travel is theoretically possible. Assuming that time travel were to be made possible through some technological breakthrough, it would be advantageous to send someone back in time to prevent the assassination of Archduke Franz Ferdinand in 1914 and thus keep World War I from ever occurring.

9. The argument above makes which of the following assumptions?
   A. It is not possible to alter a significant current in world history merely by changing a single event
   B. The technology necessary for time travel is likely to be developed in the near future
   C. If Franz Ferdinand had not been assassinated, some other catalytic event would have led to the start of World War I
   D. The assassination of Franz Ferdinand was the crucial event that triggered the start of World War I
   E. If time travel were to be developed in the future, evidence of time travelers would be apparent to those living today

Questions 10-15

In a telecommunications-cable assembly plant, cables are assembled by twisting plastic-coated wires together. There are wires of exactly six different solid colors red, yellow, violet, green, white and black. Wires must be assembled into single cables according to the following rules:

Each cable must contain at least three wires and wires of at least three different colors.
At most two wires in a single cable can be black.
At most two wires in a single cable can be white.
There can be at most one wire of each of the other colors in a single cable.
If one wire is red, then one wire must be yellow.
If one wire is violet, then no wire can be green.

10. Which of the following could be the complete set of wires in an acceptable cable?
   A. A green wire, a white wire, and a violet wire
   B. A violet wire, a black wire, and a white wire
   C. A red wire, a black wire, and a green wire
   D. A yellow wire and exactly two black wires
   E. Exactly two black wires and exactly two white wires

11. The maximum number of wires that can be used in an acceptable cable is
   A. 8
   B. 7
   C. 6
   D. 5
   E. 4
12. If exactly one black wire and exactly one white wire are used in an assembled cable, which of the following must be true?

A. The cable contains no more than five wires  
B. The cable contains exactly six wires  
C. The cable contains a yellow wire  
D. The cable does not contain a red wire  
E. The cable does not contain a violet wire

13. If a white wire and a violet wire must be among the wires chosen for a particular cable, any of the following pairs of wires could complete the cable EXCEPT a:

A. black wire and a second white wire  
B. yellow wire and a second white wire  
C. yellow wire and a black wire  
D. red wire and a yellow wire  
E. red wire and a black wire

14. If an assembled cable consists of exactly five wires, each a different color, it could be true that a color NOT used is

A. black  
B. white  
C. green  
D. red  
E. yellow

15. If there is an additional requirement that violet must be used if yellow is used, which of the following must be true?

A. No cable contains fewer than six wires  
B. No cable contains more than five wires  
C. Green is never used if red is used  
D. Red is always used if violet is used  
E. Black is used exactly once if yellow is used
16. The circumference of a circle whose diameter is 7 inches is approximately:
   A. 22 inches
   B. 28 inches
   C. 38 inches
   D. 154 inches
   E. 14 inches

17. What is 15% of 32?
   A. 4
   B. 3.50
   C. 4.80
   D. 3.80

18. Solve the following equation for x:
    \[ 3x - 5 = 3 + 2x \]
   A. 8
   B. 10
   C. 6
   D. 14

19. At a dairy it takes 90 seconds to fill 30 one-gallon jugs of milk. How many minutes does it take to fill 90 jugs of milk?
   A. 1
   B. 3
   C. 3.5
   D. 4
   E. 4.5

20. A number that is divisible by both 6 and 8 is also divisible by:
   A. 5
   B. 9
   C. 11
   D. 16
   E. 24
CHEMISTRY

21. At STP, which element has definite shape and volume?
   A. Ag
   B. Hg
   C. Ne
   D. Xe

22. As sodium phosphate dissolves in 100 milliliters of pure water, the pH of the resulting solution:
   A. decreases
   B. increases
   C. remains the same
   D. can not be determined from the given information

23. An atom of an element contains 20 protons, 20 neutrons and 20 electrons. The element is:
   A. an alkali metal
   B. an alkaline earth metal
   C. a halogen
   D. a noble gas
PHYSICS

24. A boy walks 2 meters north, 4 meters west, and 2 meters south. His final displacement is:

   A. 4 m east
   B. 4 m west
   C. 2 m north
   D. 2 m south
   E. 5 m northwest

25. A rock is dropped from a high bridge. At the end of 3 seconds of free fall the speed of the rock is, in centimeters per second:

   A. 30
   B. 100
   C. 500
   D. 1,000
   E. 3,000

26. The term Brownian movement refers to:

   A. irregular motions of small particles suspended in a fluid
   B. convection currents in a liquid or gas
   C. convection currents in a gas but not in a liquid
   D. the stretching of a body beyond its elastic limit
   E. the sinking of mercury in capillary tubes
COMPUTER SCIENCE

27. A computer can be defined as an electronic device that can (choose the most precise definition):

A. Carry out arithmetic operation  
B. Carry out logical operation  
C. Do complicated calculation  
D. Accept and process data by implementing sequentially a set of stored instructions

28. Raw data is processed by the computer into:

A. Number sheets  
B. Updates  
C. Paragraphs  
D. Information

29. Loading of operating system in a personal computer is called:

A. Booting  
B. Prompting  
C. Interrupting  
D. Paging
30. If two rows in a square matrix are identical, the value of the determinant of that matrix is _____.
   A. Not possible
   B. Zero
   C. Positive
   D. Negative

31. \[ \int \frac{1}{x} \, dx \]
   A. \( x^{-2} \)
   B. \( x^0 \)
   C. 0
   D. \( \ln x \)

32. If slopes of the two lines are equal then lines must be _____.
   A. Parallel
   B. Perpendicular
   C. Intersecting
   D. Not parallel
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