

Model Question Paper

Analytical

1. Statements: All Computer science students know programming.
Rohit does not know programming

Conclusions:

Rohit is not from computer science

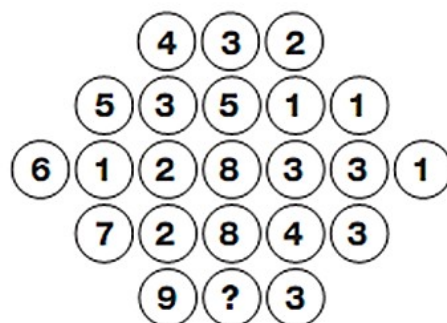
Programming is not essential to have computer science background.

- A. Only conclusion I follows
- B. Only conclusion II follows
- C. Either I or II follows
- D. Neither I nor II follows
- E. Both I and II follow

2. Inside a hollow conducting sphere

- A. Electric field is zero.
- B. Electric field is a non-zero constant.
- C. Electric field changes with distance from the centre of the sphere.
- D. Electric field changes with the magnitude of the charge given to the conductor.

3. Fill the blank circle:



- A. 3
- B. 1
- C. 8
- D. 6

Quantitative

- $2^2+4^2+6^2 =$
(n is the number of terms in the following)
 - $[2n(n+1)(2n+1)]/6$
 - $[4n(n+1)(2n+1)]/6$
 - $[4n(n+1)(2n+1)]/3$
 - none of these
- Select the option that is incorrect.
 - If A and B are two random variables, their correlation $R(A,B) = E\{AB\}$
 - If A and B are two independent random variables then A and B are also uncorrelated
 - If A and B are two independent random variables, then their covariance = 0
 - If A and B are two random variables, then $P(AB) = 0$
- Remote sensing satellites move around the Earth in a perfectly circular orbit. From an altitude of 705 km., the satellite camera can see a square patch on the earth about 150 km on a side. Assuming that there is no overlap between the images, how many photographs would the camera have to take in order to fully cover the surface of the earth? The radius of Earth is 6371 km
 - 22670
 - 22000
 - 23000
 - none
- What is the minimum no. of days between one Friday the 13th and the next Friday the 13th? Assume the year is a Leap Year?
 - 28
 - 56
 - 91
 - 84

General Awareness

1. What are mangroves?
 - A. Type of tropical fruits
 - B. Shelters of aboriginals
 - C. Intertidal plants
 - D. A tribe from Andaman-Nicobar Islands

2. The composition of the core of the Earth is thought to be ____
 - A. Basalt B. Granite
 - C. Peridotite D. Solid iron-nickel alloy

3. What type of remote sensing is good for mapping Earth's surface under cloud cover?
 - A. Thermal B. Optical C. Microwave D. infrared

4. What is the ring of fire?
 - A. A ring of volcanos around New Zealand
 - B. The Pacific Rim where a large number of earthquakes and volcanic eruptions occur
 - C. The Atlantic rim where a large number of earthquakes and volcanic eruptions occur
 - D. The Himalaya-Andaman belt where a large number of volcanos and earth quake occur.

Solutions:

Analytical:

1- A

2- A

3- D

Quantitative:

1- B

2- D

3- A

4- C

General Awareness:

1- C

2- D

3- C

4- B