



Instructions

Each question is printed both in Hindi and in English.

Answer must be written in the medium specified in the Admission Certificate issued which must be stated clearly on the cover of the answer-book in the space provided for purpose. No marks will be given for the answer written in a medium other than that specified in the Admission Certificate.

Candidates should attempt all questions strictly in accordance with the instructions given for each question.

The number of marks carried by each question is indicated at the end of the question.

Two (2) graph sheets are attached to this question paper for attempting questions (c). The graph sheets are to be carefully detached from the question paper and secured to the answer book by the candidate.

1. Answer any two of the following in about 250 words: $20 \times 2 = 40$

- a. List the Central Asian Republics and identify those of particular strategic and economic importance to India. Examine the opportunities and bottlenecks in enhancing relations with these countries.**
- b. Critically examine the security and strategic implications of the so-called 'pearls' theory for India.**
- c. "Compared to the South Asian Free Trade Area (SAFTA), the Bay of Bengal Initiative for Multisectoral Technical and Economic Cooperation Free Trade Area (BIMTEC) seems to be more promising." Critically evaluate.**

2. Answer any three of the following in about 150 words each: $12 \times 3 = 36$



- a. Subsequent to the Nuclear Suppliers' Group (NSG) waiver in 2008, what agreements on nuclear energy that India has signed with different countries?
- b. Trace the progress of India's efforts for a joint counter-terrorism strategy with China. What are the likely implications of the recent Xinjiang violence on India's efforts?
- c. Bring out the importance of the 'Small and Medium Enterprises Expo and Conference' held in Dubai last year for Indian business.
- d. What are the salient features of the political and economic relationship between India and South Africa?

3. Answer either of the following in about 250 words: 20

- a. "The causes and implications of the Jasmine Revolution and its spread are economic in nature as they are political." Critically evaluate.
- b. In the context of the 'Euro-zone' debt crisis, examine the proposed 'six-point solution'. Do you think that this has a better chance of success than the Euro Stability and Growth Pact?

4. Answer any four of the following in about 150 words each: $12 \times 4 = 48$

- a. "As regards the increasing rates of melting of Arctic Sea ice, the interests of Arctic Council nations may not coincide with those of the wider world." Discuss.
- b. Is there still a role for the concept of balance of power in contemporary international politics? Discuss.
- c. "Strategic interests seem to be replacing commercial interests for the host countries with regard to Cam Ranh Bay." Amplify.
- d. To what extent has the withdrawal of al-Shabab from Mogadishu given a new chance in Somalia? Assess.
- e. On a Formula-one F-1 racing car track, information to drivers is generated through the standardized use of flags of different colours. Describe the names associated with any six flags listed below:
 - i. White flag
 - ii. Black flag
 - iii. Yellow flag
 - iv. Blue flag
 - v. Black and white flag divided diagonally



vi Chequered flag

vii Yellow and red striped flag

5. Comment on any thirteen of the following in about 50 words each: $5 \times 13 = 65$

- a. International Year of Chemistry*
- b. The scourge of e-waste*
- c. 'Designer' poultry eggs*
- d. INSPIRE programme of the Department of Science and Technology*
- e. The 'Kessler syndrome' with reference to space debris*
- f. Omega-3 fatty acids in our food*
- g. Difference between 'spin-drying' and 'tumble-drying' technology with reference to drying of washed clothes*
- h. The diminishing population of vultures*
- i. 'Arensic-bug' and the significance of its discovery*
- j. F – 22 'Raptor' aircraft*
- k. 'Concentrated' solar energy and 'photovoltaic' solar energy*
- l. Analog, hybrid and IP systems in CCTV technology*
- m. Various applications of Kevlar*
- n. Differences between Compact Disc (CD), Digital Versatile Disc (DVD) and Blu-ray Disc*

6. Comment on the following in about 50 words each: $5 \times 5 = 25$

- a. Functions of the World Customs Organization (WCO).*
- b. Success of international intervention in Cote d'Ivoire (Ivory Coast)*
- c. Strategies adopted by Colombia to eliminate its drug cartels*
- d. World Food Programme (WFP) of the United Nations (UN)*
- e. Sculpture of the broken chair in front of the UN building at Geneva*

7. Why have each of the following been in the news recently (Each answer in about 50 words only)? $2 \times 10 = 20$

- a. Tiangong-1*



- b. K-computer*
- c. Gliese 581g*
- d. MABLE robot*
- e. 'Operation Shady Rat'*
- f. 'SAGA-220'*
- g. 'Billion Acts of Green'*
- h. L-Aquila earthquake*
- i. OPERA detector at Gran Sasso*
- j. Saturn's Titan*

8. Why have the following been in the news recently (Each answer in a sentence only)? $2 \times 5 = 10$

- a. 'News International' newspaper*
- b. Mustafa Abdul-Jalil*
- c. Abel Kirui*
- d. Natalie Portman*
- e. Nawaf Salam*

9. Answer the following questions

- a. List the requisities of a good table. Present the following in a suitable table*
- b. In-1980 out of a 1750 workers of a factory, 1200 were members of a union. The number of women employed was 200 of which 175 did not belong to the union. In 1985 the number of union workers increased to 1580 of which 1290 were women. On the other hand the number of non-union workers fell down to 208 of which 175 were women. In 1990 there were 1800 employees who belonged to the union and 208 who did not belong to the union. Of all the employees in 1990, 300 were women and 175 did not belong to the union.*
- c. Draw a graph for the following distribution, Read the median from the graph.*

Marks

No. Of students

50 – 55

Marks 6



55 – 60

Marks 10

60 – 65

Marks 22

65 – 70

Marks 30

70 – 75

Marks 16

75 – 80

Marks 12

80 – 100

Marks 15

d. From the following data calculate the missing frequency:

No. Of tables

No. Of persons cured

4 – 8

Persons 11

8 – 12

Persons 13

12 – 16

Persons 16

16 – 20

Persons 14

20 – 24

Persons?

24 – 28

Persons 9

28 – 32

Persons 17

32 – 36

Persons 6

36 – 40

Persons 4

The average number of tables to cure fever was 19.9

e. Life time of 400 tubes tested in a company is distributed as follows:

Life-time (Hours)

No. Of tubes



300 – 399

Tubes 14

400 – 499

Tubes 46

500 – 599

Tubes 58

600 – 699

Tubes 76

700 – 799

Tubes 68

800 – 899

Tubes 62

900 – 999

Tubes 48

1000 – 1099

Tubes 22

1100 – 1199

Tubes 6

Determine:

- i. Relative frequency of sixth class.**
- ii. Percentage of tubes whose life-time does not exceed 600 hours.**
- iii. Percentage of tubes whose life-time is greater than or equal to 900**
- iv. Percentage of tubes whose life-time is at least 500 but less than 100**

10. Answer the following questions

- a. A car travels 25km at 25km at 50 kph, and 25 km at 75 kph. Find the average of the car for the entire journey.**
- b. The mean of 200 items was 50. Later on it was found that two items were read as 92 and 8 instead of 192 and 88. Find the correct mean. 4**
- c. Students were asked how long it took them to walk to school on a particular morning. A cumulative frequency distribution was formed.**

Time taken (minutes)

Cumulative Frequency

Time <5

Frequency 28



Time <10

Frequency 45

Time <15

Frequency 81

Time <20

Frequency 143

Time <25

Frequency 280

Time <30

Frequency 349

Time <35

Frequency 374

Time <40

Frequency 395

Time <45

Frequency 400

i. Draw a cumulative Frequency curve.

ii. Estimate how many students took less than 18 minutes.

iii. 6% of students took x minutes or longer. Find x (6 marks).

d. An investors buys Rs. 1200 worth of shares in a company each month. D first five months he bought the shares at a price of Rs. 10, Rs. 12, Rs. 15, 1 Rs. 24 per share. After 5 months, what is the average price paid for the s him?