



UPSC

2009 - MAINS PAPER - II

Instructions

Each Question is printed both in Hindi and English Medium. Answer must be written in the medium specified in the Admission Certificate issued to you, which must be stated clearly on the cover of the answer book in the space provided for the purpose. No Marks will be given for the answers written in a medium other than that specific in the Admission Certificate. Candidates should attempt all questions strictly in accordance with the instructions given under each question. The number of marks carried by each question is indicated at the end of the question.

1. Write notes on any three of the following (in about 150 words each) 3 × 15 = 45
 - (a) India's strategic interests in South Asia
 - (b) China's 'peaceful rise' doctrine
 - (c) India Russia Defence Ties
 - (d) India's 'soft' and 'Hard' power strategy in foreign policy

2. Write brief notes on any four of the following in about 50 words each 4 × 5 = 20
 - (a) Nuclear Supply Group (NSG) and India
 - (b) Your view on the recent 'Gilgit-Baltistan Empowerment and Self Governance Order 2009 Order'
 - (c) Wakhan Corridor
 - (d) Nuclear Submarine 'Arihant'
 - (e) National Security Advisory Board (NSAB)

3. Comment on any two of the following in about 100 words 2 × 10 = 20
 - (a) India USA as strategic partners
 - (b) Ethnic conflict in South Asia
 - (c) 'NEPAD' and its objectives

4. Write on any two of the following in about 50 words each. 2 × 5 = 10
 - (a) Indo-Bhutan trade relations
 - (b) Sino Myanmar relations
 - (c) Geopolitics and Geostrategy



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5. Comment critically on any one of the following statements in not more than 200 words: 20
- Foreign investment is far from being critical to India's economic growth
 - The Lesson of current global financial crisis is that India should halt and may be even reverse financial liberalization.
6. Answer any one of the following in about 200 words: 20
- In the WTO negotiations over the years of the DOHA Rounds, India appears to be diluting its stand on agriculture issues to pursue perceived gains in services. Critically examine this statements.
 - Discuss the Indo US Knowledge initiative in Agriculture.
7. Answer any two of the following questions (in about 150 words each) $15 \times 2 = 30$
- Evaluate the prospects for greater economic cooperation between India & China.
 - Does India need the world Bank?
 - Critically assesses the recent Free Trade Agreement entered into by India with ASEAN.
8. Answer any three of the following questions (in about 150 words each) $3 \times 15 = 45$
- What do you understand by 'Biosignatures' Discuss briefly.
 - Write about Green Florescence Protein (GFP) and its application.
 - Define 'Bioinformatics' How does it work? What is the major branches and applications?
 - What is the 'Hubble Space Telescope' How many Service Mission (SMs) have been conducted for it?
9. Explain any four of the following (100 words each) $4 \times 10 = 40$
- DNA Finger Printing and its utility.
 - What is 'Nanotech' Give a brief account of its basic concepts, material used and applications.
 - What is 'Graphene' Mention at least three of its applications
 - Define 'optical frequency comb' Suggest at least three applications.
 - Why is Tele-medicine important for country like India?



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10. Write brief notes on any five of the following (in about 30 words each): $5 \times 13 = 15$

- (a) Artificial Sun
- (b) 'Vegetable Gold'
- (c) PFCs and 'liquid breathing'
- (d) The 'P - 8 A Poseidon'
- (e) Biometric ATMs
- (f) Extra Vehicle Activity (EVA)

11. (a) The total areas of cultivation of high, medium and low sugar content, sugarcane in four regions of a state are given below:

| Sugar Content | Region | | | |
|---------------|--------|-------|------|------|
| | North | South | East | West |
| High | 100 | 100 | 200 | 50 |
| Medium | 300 | 300 | 400 | 250 |
| Low | 800 | 400 | 1000 | 700 |
| Total | 1200 | 800 | 1600 | 1000 |

Draw suitable diagram that facilitates the comparison of areas of cultivation of different sugar content varieties among the four regions

b) The following table gives the production of soda ash (in tons) by three companies (A, B and C) over seven years period:

| Company | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|---------|------|------|------|------|------|------|------|
| A | 20 | 25 | 28 | 31 | 34 | 36 | 41 |
| B | 15 | 18 | 23 | 35 | 40 | 46 | 50 |
| C | 45 | 43 | 40 | 37 | 30 | 26 | 20 |

Draw a suitable diagram so as to compare the performance of these companies.

(C) The following data relate to the sales and net profit (in Rupees Cores) of a company:

| Years | 1994-95 | 1995-96 | 1996-97 | 1997-98 | 1998-99 |
|------------|---------|---------|---------|---------|---------|
| sales | 100 | 250 | 300 | 290 | 680 |
| Net profit | 2.5 | 4.5 | 6 | 8.5 | 12 |

I. In which year the percentage of growth in sales, relative to the previous year is higher?

II. In which year the percentage of growth in net profit, relative to the previous year, is higher?



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III. Let the probability be defined as the ratio of Net Profit to sales. In which Year the profitability is higher?

(d) The Total sales (in 000 rupees) of a particular item in shop, on 10 consecutive days, is reported by a clerk as follows:

35.00, 29.60, 38.00, 30.00, 40.00

41.00, 42.00, 45.00, 3.60, 3.80

Later it was found that reports of the 4th and 8th days were 10.00 more than the true values and that in the last two days the clerk put a decimal wrongly one place to the left (for example, 3.60 was really 36.0). Calculate the true mean value of sale

12. (a) In a factory, 1500 women are working. Eight hundred of them come from rural areas and 450 of the married women are skill labourers. The number of skilled, rural and married labourers is 300. Of the 400 unmarried and skilled women labourers, 250 are from urban areas. The number of married, semi skill women labourers from urban areas is 200. One hundred married rural women are semi skilled labourers.

Tabulate the above information.

(b) The mean score of a class in an examination is 70. If the mean score of boys is 60 and that of girls is 75, obtain the percentage of girls in the class.

(c) In a city 20% people read newspaper A, 25% people read B and 10% read both A and B. What is the percentage of people who read at least one of the two newspapers?

(d) In order to study the effect of inoculation on TB, It was found that the number of inoculated and unaffected from TB is 28. And not inoculated and affected from TB is 13. If inoculation was performed over 40 persons out of 60 persons, complete the table and obtain the missing numbers.

(e) The percentage of literates six villages of an area are noted as follows:

52, 46, 21, 30, 17, 24

Can compute the percentage of literates in the entire area from this information? If yes, compute the percentage. If no, state what additional information you would need for computation.