GENERAL STUDIES (M): 2012

Paper II   **CSE (M): 2012   5 October, 2012**

Time Allowed: Three Hours	Maximum Marks: 300

INSTRUCTIONS

Each question is printed both in Hindi and in English.

Answers 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 specified 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.

Three (3) graph sheets are attached to this question paper for attempting questions no. 5 and 6. The graph sheets are to be carefully detached from the question paper and securely attached to the answer-book by the candidate.

Important: Whenever a question is being attempted, all its parts /sub-parts must be attempted contiguously. This means that before moving on to the next question to be attempted, candidates must finish attempting all parts/sub-parts of the previous question attempted. This is to be strictly followed.

Pages left blank in the answer-book are to be clearly struck out in ink. Any answers that follow pages left blank may not be given credit.

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1. **Answer any four of the following in about 250 words each:** 25×4=100

(a) Do you think that China's emergence as one of the largest trading partners of India has adversely affected the settlement of the outstanding border problem?

(b) Discuss the globalization of R&D and its impact on India's development. Provide an illustration from at least one sector such as Information Technology or Health.

(c) Discuss the contentious issues that have caused the prolonged constitutional logjam in Nepal.

(d) The human population is slated to grow to 9 billion by 2050. In this context, many scientists predict that plant genomics would play a critical role in keeping out hunger and preserving the environment. Explain.

(e) "The situation today is far different to that prevalent fifty years back when the Indus Water Treaty was signed." Highlight the complexity of the current challenges on both sides of the border in this regard. Do you think that a review of the Treaty is in India's best interests?

2. **Answer any five of the following in about 150 words each:** 15x5=75

(a) Write a short analytical note on Indian Diaspora. How is the "New Diaspora" different from the "Old Diaspora"?

(b) Why have the resource rich African and South Asian countries remained poor for decades? Explain.

(c) Does Putin's return as President of Russia mark a shift to a confrontationist stance in international diplomacy towards the West?

(d) Analyse critically the interlinkages between the Convention on Biological Diversity and FAO Treaty on Plant Genetic Resources for Food and Agriculture.

(e) Critically review the international concern in achieving the targets set for the Millennium Development Goals.

(f) Discuss the likely impact of the protectionist measures proposed by the US on India's software industry.

3. **Answer any six of the following in not more than 100 words each:** **10x6=60**

(a) In the context of Assisted Reproductive Technologies, India has emerged as a hub of commercial surrogacy. What key biological, legal and ethical issues merit consideration while framing the regulation to govern surrogacy in India?

(b) Why is international trade perceived to have failed to act as an "engine of growth" in many developing countries including India?

(c) Despite strict prohibitory regulations, "doping" has become increasingly common amongst athletes. Name five commonly used performance-enhancing drugs. What are the risks associated with their use?

(d) Compare the significance of IBSA and BRICS in the context of India's multilateral diplomacy.

(e) The safe landing of the "Curiosity" Rover under NASA's space programme has sparked many possibilities. What are those and how could humankind benefit from them.

(f) How have the US sanctions against Iran affected India's bilateral relations with Iran?

(g) What is Permaculture? Give at least three common examples where permaculture concepts are being put to use.

4. **Answer the following in not more than 50 words each:** **5x6=30**

(a) The Sequoia supercomputer was launched this year. What are its specific features and what is its purpose?

(b) What is meant by the G8+5 group?

(c) The Human Papilloma Virus vaccine has been making the headlines in the recent months. Who make the ideal candidates for receiving this vaccine and what are its benefits?

(d) What are India's stakes in the South China Sea?

(e) Explain the concepts "Environmental Sustainability" and "Sustainable Development of People".

(f) Explain briefly the "Clean Development Mechanism" as provided under the United Nations Framework Convention on Climate Change (UNFCCC).

5. **(a)** The following table gives the number of mistakes made by 16 data entry clerks who enter medical data from case report forms. The column Entered indicates the number of values entered, and the column Errors gives the number of coding errors that were detected among these. 9

Entered	Errors
4,434	35
4,841	42
6,280	15
1,958	28
7,749	36
2,829	42
4,239	18
3,303	54
5,706	34
3,770	40
3,363	36
1,740	23
3,404	27
1,640	26
3,803	56
1,529	20

(i) Make a scatter-plot of these data. Which do you choose for the response and which for the explanatory variables? Describe any patterns.

(ii) Does the scatter-plot indicate any relation between the two variables?

(iii) One analyst concluded, "the clerks who enter more mistakes. Evidently they become tried as they enter more values." Is this an appropriate conclusion?

(b) The following table provides the Rural and Urban population of West Bengal according to the Censuses of 1921 – 1951: 6

Census Year	Population (in lakhs)	
	Rural	Urban
1921	139.94	24.32
1931	147.92	28.97
1941	171.97	46.79
1951	200.25	62.82

(i) Construct a suitable diagram to compare the population figures.

(ii) Comment on the changes in populations.

(c) Suppose milk is being sold at the rates of 18, 20, 22 and 25 rupees per litre in four different months. Assuming that equal amounts of money are spent on milk by a family in the four months, using a suitable measure, determine the average price in rupees per litre. 2

6. **(a) (i)** Determine the median and mode for the following distribution of monthly income for 580 middle-class people of country: 8

Monthly Income (in Rs. Thousands)	Frequency
25 – 30	53
30 – 35	81
35 – 40	114
40 – 45	195
45 – 50	63
50 – 55	32
55 – 60	20
60 – 65	11
65 – 70	8
70 – 75	3

(ii) Also obtain an approximate value of the mean income from the values of median and mode.

(iii) Comment on the nature of the income distribution.

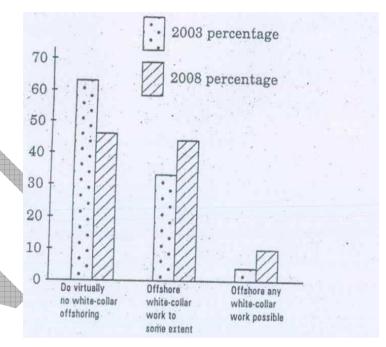**(b)** From the frequency distribution of height for 177 Indian adults given below, draw the 'more than type' ogive: 3

Height (cm) Class Interval	Frequency
144.55 – 149.55	1
149.55 – 154.55	3
154.55 – 159.55	24
159.55 – 164.55	58
164.55 – 169.55	60
169.55 – 174.55	27
174.55 – 179.55	2
179.55 – 184.55	2

Also locate the position of the median

(c) A survey of 1000 large U.S. companies conducted by a Research Organization asked their plans for outsourcing high-level white-collar jobs to countries outside the U.S. The following table shows the percentage that indicated a certain action. The data for 2003 are real, the data for 2008 are speculative.   7

Plan to	2003 (%)	2008 (%)
Do virtually no white-collar offshoring	63	46
Offshore white-collar work to some extent	33	44
Offshore any white-collar work possible	4	10

The following Bar chart with side-by-side columns summarizes the data:

(i) Does the Bar chart compare the impression of any anticipated trend in outsourcing of white-collar jobs?

(ii) Does the mode differ from the median for the distribution of percentage in 2003 and 2008?