

Geography:

### SECTION - A

Attempt all questions from this Section.

#### Question 1

Study the extract of the Survey of India Map Sheet No. 45 D/ 7 and answer the following questions:

(a) Give the six-figure grid reference of:

- i. A 225
- ii. A lined well near Ganguwada. [2]

(b) Name the most important perennial source of irrigation shown on the map extract. [1]

(c) (i) What does 6r in the grid square 8495 means?

(ii) What do you mean by 20r in the grid square 8994? [2]

(d) Give two points in evidence to show that the region in the map extract has seasonal rainfall. [1]

(e) (i) What does the blue line in the Varka N indicate?

(ii) What is the general direction of the Varka N? [1]

(f) (i) What is the meaning of 1 : 50,000 printed below the map extract?

(ii) Calculate the distance in km along the cart track between Jegal in the grid square 8590 and Odhava in the grid square 8892. [2]

(g) Which part of the map is more developed in agricultural occupation? Give a reason for your answer. [2]

(h) Give the four figure grid reference of confluence of Sipu river and Varka N. [1]

i. Name two types of vegetation in the given map extract. [2]

ii. What is the pattern of drainage in the grid square 8599? [1]

(k) (i) How many types of tracks are shown in the map extract? Name them.

(ii) What is the common mode of transportation in the southern part of this map? [2]

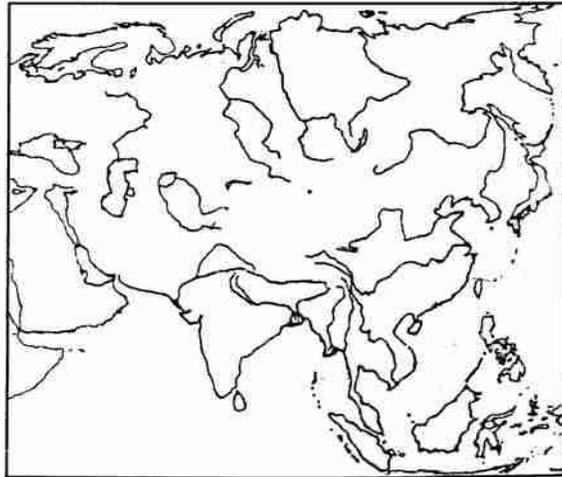
(l) What is the general pattern of settlement? Why? [2]

### SECTION - B

Answer any two question from this Section.

#### Question 2

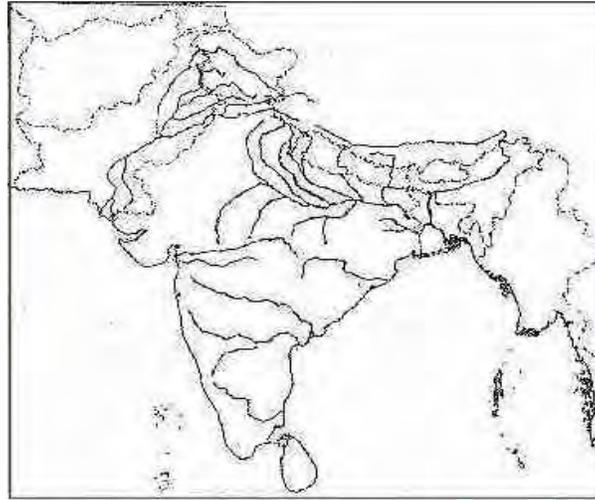
On the outline map of Asia, provided:



- (a) Mark with a bold line and name the Urals. [1]
- (b) Label the river Mekong. [1]
- (c) Shade and name the Plateau of Mongolia. [1]
- (d) Shade and name the Sea of Japan. [1]
- (e) Shade and Name the Deccan Plateau. [1]
- (f) Mark and name the Equator. [1]
- (g) Label the river Yenisey. [1]
- (h) Mark with a bold line and name the Caucasus. [1]
- (i) Shade and name Bhutan. [1]
- (j) Mark with a thick line and name the Yablonoï mountains. [1]
- (k) Mark with an arrow and name Thailand. [1]
- (l) Shade and name Northern Lowlands. [1]

### Question 3

On the outline map of the Indian Sub-continent, provided:



- (a) Mark with a bold line the mountain range 'Satpura.' [1]
- (b) Label the river Mahanadi. [1]
- (c) Shade and name the Rann of Kutch. [1]
- (d) Mark and name the River Jhelum. [1]
- (e) Mark with a dot and name the city of Lahore in the appropriate place. [1]
- (f) Print 'TRF' in one area that has Tropical Rain Forests. [1]
- (g) Mark with a dot and name Dacca. [1]
- (h) Print 'COTTON' over one area, where it is cultivated South of the Tropic of Cancer in India. [1]
- (i) Print 'I.O.' over one area, where iron ore is mined in India. [1]
- (j) Mark with a dot and name Allahabad. [1]
- (k) Shade and write 'DP' over one area of Dense Population in North of the Tropic of Cancer. [1]
- (l) Mark with a dot and name the biggest city on the West Coast. [1]

### Question 4

- (a) Why are there great variations in the climate of the Indian sub-continent? [2]
- (b) Name any two local winds which blow in India and write briefly about each. [2]
- (c) (i) Under what rainfall conditions are the Tropical Rain forests found?
- (ii) What are the two main characteristics of the trees found in Tropical Evergreen Forests? [2]
- (d) Which regions of India have Desert Vegetation? How are they adapted to climate? [1]
- (e) Explain the origin of the black soil. Name two States in India, which have black soil. [2]

### SECTION - C

Attempt any three questions from this Section.

#### Question 5

- (a)
- i. Name one area in India where jute is cultivated widely. [1]
- ii. Mention, why there is a concentration of this crop in the area mentioned by you? [1]
- (b)
- i. Mention a leading beverage crop of India. [1]
- ii. What are its requirement in terms of soil and rainfall? [1]
- (c)
- i. Which State is the largest producer of sugarcane in India? [1]
- ii. Mention the climatic conditions needed for the cultivation of this crop. [1]
- (d) Name four important medicinal plants grown in India. [2]
- (e) What are the two methods of cultivation of rice? Which one is known for its better yields? [2]
- (f) Explain briefly what is meant by the following terms: (i) Topping, (ii) Retting. [2]

#### Question 6

- (a) With reference to Tata Iron and Steel Company, answer the following:

- i. When and where was it set-up? [1]
- ii. From where does it get its supply of Iron-Ore, Coal, Limestone and Manganese? [4]

(b) Name the four centres of iron and steel in the public sector which are located in a single geographical region. With whose collaboration was each one of them set-up? [2]

(c) Why has Mumbai a large number of cotton textile units? [2]

(d) Give two reasons to show why the sugar industry has flourished in Uttar Pradesh and Bihar. [2]

(e) Give two reasons for the following:  
The silk Handloom industry is important in Mysore. [1]

### Question 7

(a) With reference to Jute Industry, answer the following.

- i. Name two centres of this industry in West Bengal. [1]
- ii. Name two major jute products. [1]
- iii. Mention two problems faced by this industry. [2]

(b) Name two industrial units engaged in the production of pharmaceuticals. [2]

(c) Why is fertilizer industry important for India? [2]

(d)

- i. Give two reasons to explain why cottage industries are important for India's economy. [2]
- ii. Name the cottage industries associated with Ludhiana and Hyderabad. [2]

### Question 8

(a) Name two districts of Rajasthan irrigated by the Indira Gandhi Canal. From which river its water is drawn? [2]

(b)

- i. In which part of the country, wells are the most important means of irrigations? [1]
- ii. What are the disadvantages of well irrigation? [2]

(c) Name the four important dams in the Damodar Valley Project. [1]

(d) Where is the Rajasthan Nuclear Power Station situated? [1]

(e) What are the two main advantages of Bio-Gas? [2]

(f) Name two atomic minerals. [2]

### Question 9

(a) State one advantage and one disadvantage of large dams. [2]

(b) State two ways in which canal irrigation systems can be improved in India. [2]

(c) Name two important Hydel power projects in India. [2]

(d) What is the D.V.C.? Name two of its special objectives. [2]

(e) Why have the Western Ghats great potential for hydro-electric power generation? [2]

(f) On which river is the Rihand Project located? Name an industry located near it. [2]

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### General Instructions

1. Attempt **all** questions from **Part I** (Compulsory). A total of **five** questions are to be attempted from **Part II**, **one** from Section **A**, **one** from Section **B**, **one** from Section **C**, and **two other** questions from any of the Section **A**, **B**, and **C**.
2. The intended marks for questions or parts of questions are given in brackets .

### PART I (30 Marks)

Attempt all questions from this Part.

### Civics

#### Question 1

(a) Name the body that framed the Constitution of India. [1]

(b) Since the Directive Principles are non-justiciable, why were they incorporated into the constitution of India? [1]

- (c) Mention two Fundamental Rights to show that India is a Secular State. [1]
- (d) The 42nd Amendment to the Constitution in 1976, inserted certain Fundamental Duties which must be carried out by every citizen of India. State any two such duties. [2]
- (e) Name the authority that recognizes and allots symbols to the political parties and individual candidates for election purposes. [1]
- (f) What is meant by the term 'Local Self-Government'? [2]
- (g) Mention any two defects in the working of the Gram Panchayat system in India. [2]

### Modern Indian History

#### Question 2

- (a) Name the policy used by Lord Dalhousie for the extension of British territories in India. [1]
- (b) Why was the War of 1857 hailed as the first war of National Independence? [1]
- (c) Name the first President of the Indian National Congress. [1]
- (d) Mention any two achievements of the Moderates. [2]
- (e) Mention one reason for the rise of Militant Nationalism in India. [1]

### United Nation and the Regional Organization

#### Question 3

- (a) When did the United Nations officially come into existence? [1]
- (b) Give the expanded form of WHO and UNDP. [2]
- (c) Mention two ways by which the Security Council maintains International Peace. [2]
- (d) What did the declaration of Human Rights affirm? [1]
- (e) What is meant by the term 'Cold War'? [1]
- (f) Where and in which years was the first summit of NAM held? [1]

(g) Name any two founder members of the European Economic Community. [1]

(h) Where is the Central Secretariat of the ASEAN located? [1]

## **PART II (50 Marks)**

A total of five questions are to be attempted from this Part.

### **Section - A Civics**

#### **Question 4**

The Fundamental Rights and the Directive Principles of State Policy are both equally important. In this context, answer the following:

(a) State any four differences between the Directive Principles and the Fundamental Rights. [4]

(b) Explain the importance of the right against exploitation. [4]

(c) Under what circumstances can the right to move courts for the enforcement of Fundamental Rights be suspended? [2]

#### **Question 5**

Political Parties play a major role in the working of a Democracy. With reference to this, answer the following:

(a) Mention three functions of the Election Commission of India. [6]

(b) Explain, how political parties are differentiated as National or Regional parties? [4]

#### **Question 6**

(a) The composition of the Zila Parishad. [5]

(b) Its important functions. [5]

### **Section - B Modern Indian History**

#### **Question 7**

The First War of Independence of 1857, was the culmination of people's dissatisfaction with the British rule. In this context, enumerate the following causes:

(a) The Economic Causes. [5]

(b) The Military Causes. [5]

**Question 8**

With reference to the role of the Moderates in arousing National Awakening in India, answer the following questions:

(a) Name the Moderate leaders. Why were they called so? [5]

(b) Who was known as "India's unofficial ambassador in England"? What were his views on the cause of poverty in India? Mention his achievements in strengthening Indian Nationalism. [5]

**Question 9**

The partition of Bengal in 1905 was intended to check the rising tide of Indian Nationalism and to break the Hindu-Muslim unity in Bengal. In this context state the following:

(a) Reaction of the Nationalists to the Partition of Bengal. [6]

(b) Reaction of the British against the agitators. [4]

**Question 10**

With reference to the Lucknow Pact of 1916, answer the following questions:

(a) What were the terms of the Lucknow pact? [5]

(b) Why was this pact important? [5]

**Question 11**

Trace the programme and progress of the Civil Disobedience Movement under the leadership of Mahatma Gandhi with reference to the following:

(a) The Dandi March of 1930. [4]

(b) Gandhi-Irwin Pact of 1931. [4]

(c) The Second Round Table Conference of 1931. [2]

**Question 12**

The Cabinet Mission Plan made earnest efforts to resolve the constitutional deadlock'. In this context, answer the following:

(a) What were the main proposals under the Cabinet Mission Plan? [6]

(b) Why did the Cabinet Mission Plan fail? [4]

**Section - C**  
**The United Nations and the Regional Organizations**

**Question 13**

The opening words of the UNESCO constitution states that 'Since war begins in the minds of men, it is in the minds of men, defences of peace must be constructed.' With reference to this, answer the following questions:

(a) What were the objectives of the setting-up of UNESCO? [3]

(b) State the functions of the UNESCO in the field of Education and Scientific activities. [7]

**Question 14**

With the liberation of nations from colonial rule, the idea of non-alignment gained large scale acceptance. In this context, answer the following:

(a) What is the meaning of the non-aligned movement? [2]

(b) Mention the founders of NAM. [2]

(c) Explain briefly the objectives of NAM. [6]

**Question 15**

With reference to the South Asian Association for Regional Co-operation, state:

(a) Six of its major objectives. [6]

(b) Four of its Major achievements. [4]

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**General Instructions**

1. Section I is compulsory. Attempt any four questions from Section II.
2. The intended marks for questions or parts of questions are given in brackets.

**SECTION I (40 Marks)**

Attempt all questions from this Section

**Question 1**

(a) (i) A machine raises a load of 750 N through a height of 16 m in 5 seconds. Calculate the power at which the machine works. [2]

(ii) State the principle of conservation of energy. [2]

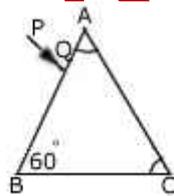
(b) (i) A cook uses a 'fire tong' of length 28 cm to lift a piece of burning coal of mass 250 g. If he applies his effort at a distance of 7 cm from the fulcrum, what is the effort in S.I. unit? Take  $g = 10 \text{ m/s}^2$ . [3]

(ii) State the S.I. unit of the momentum of a body. [1]

(c) (i) State the law of transmission of pressure in liquids. [2]

(ii) Calculate the hydrostatic pressure exerted by water at the bottom of a beaker, side ways. Take the depth of water as 10 cm, the density of water is  $1000 \text{ kg/m}^3$  and  $g = 9.8 \text{ m/s}^2$ . [2]

(d) (i) In the diagram given below, a ray of light PQ is incident normally on one face AB of an equilateral glass prism. What are the angles of incidence at the faces AB and AC? [2]



(ii) Complete the ray diagram showing its emergence into air after passing through the prism. [2]

(e) An erect, diminished and virtual image is formed when an object is placed between the optical centre and principal focus of a lens.

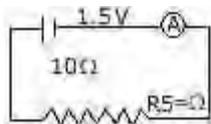
- Name the type of lens, which forms the above image. [1]
- Draw a ray diagram to show the formation of the image with the above characteristics. [3]

(f) (i) Write the name of a pair of two colours which combine to give white light. What is the name given to such a pair of colours? [2]

(ii) State two similarities between a photographic camera and the human eye. [2]

(g) (i) An observer stands at a distance of 850 m from a cliff and fires a gun. After what time-gap will he hear the echo, if sound travels at a speed of  $350 \text{ ms}^{-1}$  in air? [2]

(ii) A cell of emf 1.5 V and internal resistance 10 ohms is connected to a resistor of 5 ohms, with an ammeter in series (see figure). What is the reading of the ammeter? [2]



(h) (i) A geyser has a label 2 kW, 240 V. What is the cost of using it for 30 minutes, if the cost of electricity is Rs. 3 per commercial unit. [2]

(ii) State two advantages of an electromagnet over a bar magnet. [2]

(i) Draw a sketch of an electric bell with electrical connections and label the main parts. Why is the armature made of soft iron and not of steel? [4]

(j) (i) Mention two possible sources of background radiations. [2]

(ii) An element X changes to another element Y with the emission of beta particles. Write down the equation showing changes in the nucleus. Take the proton number and mass number of X, as Z and A respectively. [2]

### SECTION II (40 Marks)

Attempt any four questions from this Section

#### Question 2

(a) Define: (i) Work (ii) Power and (iii) Energy. [3]

(b) How is work done related to the applied force? [1]

(c) By what factor does the kinetic energy of a moving body change when its speed is reduced to half? [1]

(d) What do the following units measure?

i. Pascal

ii. Kilowatt hour. [2]

(e) From the ground floor, a man comes up to the fourth floor of a building using the staircase. Another person comes up to the same floor using an elevator. Neglecting friction, compare the work done in the two cases. [3]

### Question 3

(i) Define specific heat capacity of a substance. State its S.I. unit. [3]

(ii) Give one example each where high specific heat capacity of water is used.

- i. In cooling
- ii. As heat reservoir. [2]

(b) A vessel of negligible heat capacity contains 40 g of ice in it at  $0^{\circ}\text{C}$ . 8 g of steam at  $100^{\circ}\text{C}$  is passed into the ice to melt it. Find the final temperature of the contents of the vessel.

(Specific latent heat of vaporization of steam, =  $2260 \text{ J/g}$ ; Specific latent heat of fusion of ice =  $336 \text{ J/g}$  and Specific heat capacity of water =  $4.2 \text{ J/g}^{\circ}\text{C}$ ) [5]

### Question 4

(a) State two advantages of using a right angled prism as a reflector, rather than a plane mirror. [2]

(b) Name any four regions of electromagnetic spectrum (other than visible light) in increasing order of wavelength. [4]

(c) Draw a ray diagram to illustrate the bending of a stick in water. [2]

(d) Name any two essential parts of a single lens photographic camera. [2]

### Question 5

(a) A rubber ball floats in water with one-third of its volume above the water surface. Calculate its average relative density. [4]

(b) A vibrating tuning fork is placed over the mouth of a burette filled with water. The tap is opened and the water level gradually falls. It is observed that the sound becomes the loudest for a particular length of air column.

- i. What is the name of the phenomenon taking place when this happens? [1]
- ii. Why does the sound become the loudest? [1]
- iii. What is the name of the phenomenon taking place when sound is produced for another length of air column and is not the loudest? [2]

(c) What change, if any, would you expect in the characteristics of a musical sound when we increase:

- i. Its frequency,
- ii. Its amplitude. [2]

### Question 6

(a) Explain briefly the function of the following in the household wiring:

(i) a three-pin plug. (ii) main switch. [2]

(b) Four cells, each of e.m.f 1.5 V and internal resistance 2.0 ohms are connected in a parallel. The battery of cells is connected to an external resistance of 2.5 ohms. Calculate:

- i. the total resistance of the circuit,
- ii. the current flowing in the external circuit, and
- iii. the drop in potential across the terminals of the cells. [5]

(c) Make a table with the names of three electrical appliances used in your home in one column, their power, voltage rating and approximate time for which each one is used in one day in the other columns. [3]

### Question 7

(a) State briefly two uses of a cathode ray tube. [2]

(b) Name the technique used to estimate the age of very old trees, plants, wood and other such specimens. Name the isotope that forms the basis of this technique. [2]

(c) Describe briefly, two properties each of alpha particles and gamma radiation. [4]

(d) State two dissimilarities between a DC motor and an AC generator. [2]