



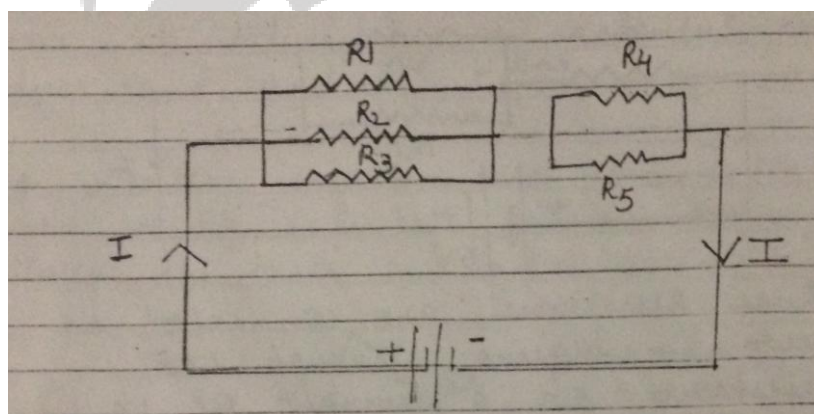
HOLIDAY HOMEWORK CLASS X

PHYSICS

1. a) Find the total resistance of the circuit shown by figure.

b) Also find the total current flowing in circuit [Ans. a) Total $R = 5.8 \Omega$ b) $I = 2.07 \text{ A}$]

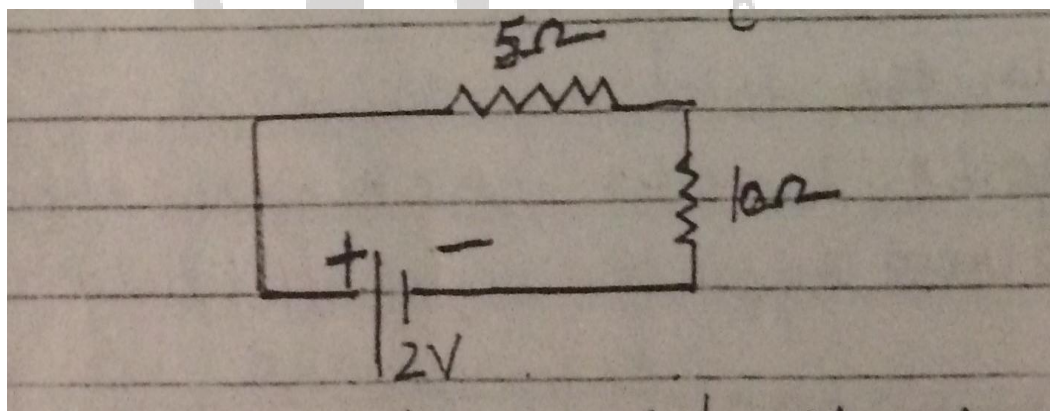
[Given $R_1 = 1\Omega$, $R_2 = 2\Omega$, $R_3 = 3\Omega$, $R_4 = 5\Omega$, $V = 12\text{V}$]



2. Calculate i) Effective resistance [Ans. $R = 15 \Omega$]

ii) Current [Ans. $I = 0.133 \text{ A}$]

iii) Potential difference across 10Ω resistor of a circuit shown in fig. [Ans. $V = 1.33 \text{ volt}$]





3. There are four coils of resistances 4Ω , 8Ω , 12Ω and 24Ω . What is

- i) The highest
- ii) The lowest resistance that can be obtained by the combination of these coils.

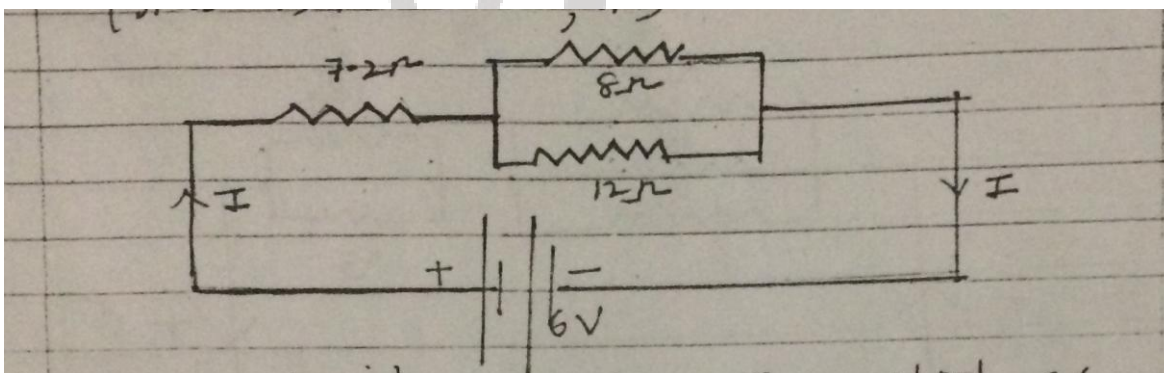
[Ans. i) $R = 48\Omega$ ii) $R = 2\Omega$]

4. A copper wire having resistance R is cut into four equal parts.

- i) Find the resistance of each part in terms of original resistance of the wire. [Ans. $R/4$]
- ii) Find the resistance of the combination if these 3 parts are connected in parallel. [Ans. $R/16$]

5. In the circuit diagram given below. Find

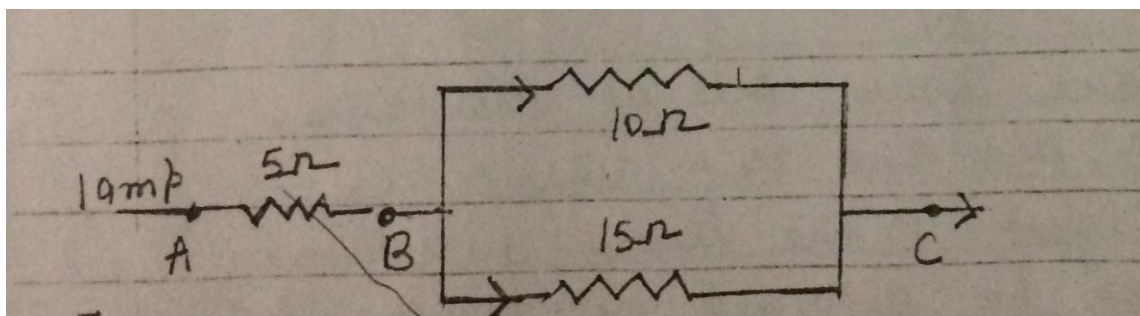
- i) Total resistance of the circuit
- ii) Total current flowing in the circuit.
- iii) Potential difference across R_1 [Ans. i) $R = 12\Omega$, ii) $I = 0.5A$, iii) $V_1 = 3.6V$]



6. Three resistances are connected as shown in figure. Through the resistance 5Ω , a current of 1 ampere is flowing.

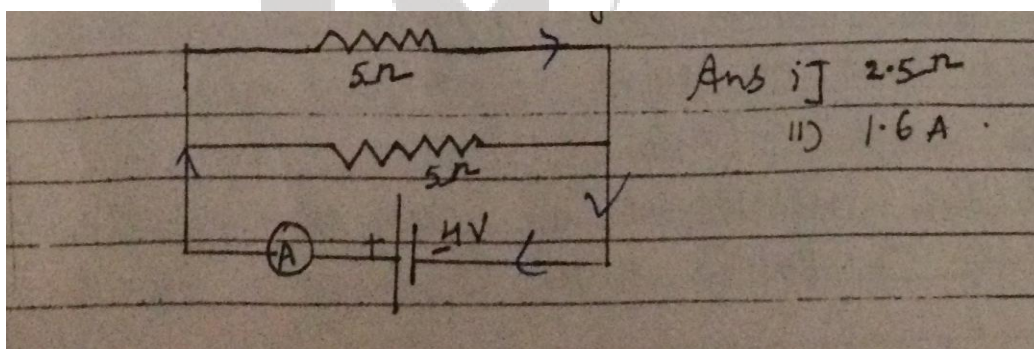
- i) What is the current through the other 2 resistors?
- ii) What is the potential difference across AB and across AC
- iii) What is the total resistance.

[Ans. i) $I_1 = 0.6A$, $I_2 = 0.4A$ ii) P.D across AB = $5V$ P.D. across AC = $11V$ iii) $R = 11\Omega$]



7. In the circuit diagram. Find

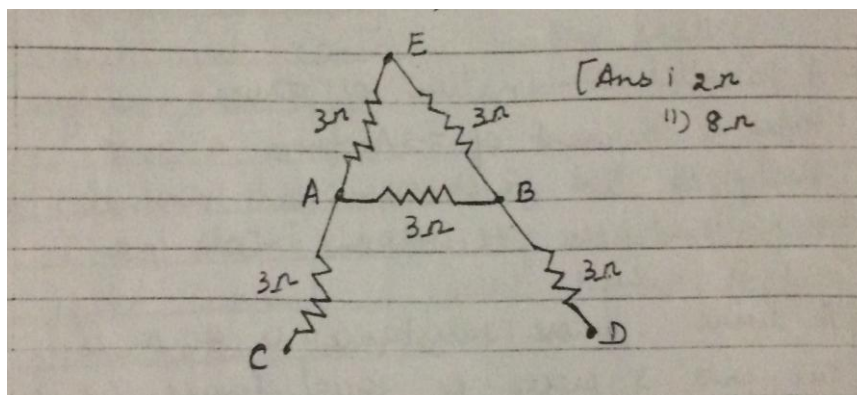
- i) Total resistance
- ii) Current shown by ammeter A



8. When two resistors of resistances R_1 and R_2 are connected in Parallel, the net resistance is 3Ω . When connected in series, its value is 16Ω . Calculate the values of R_1 and R_2 . [Ans. $R_1 = 4\Omega$, $R_2 = 12\Omega$]

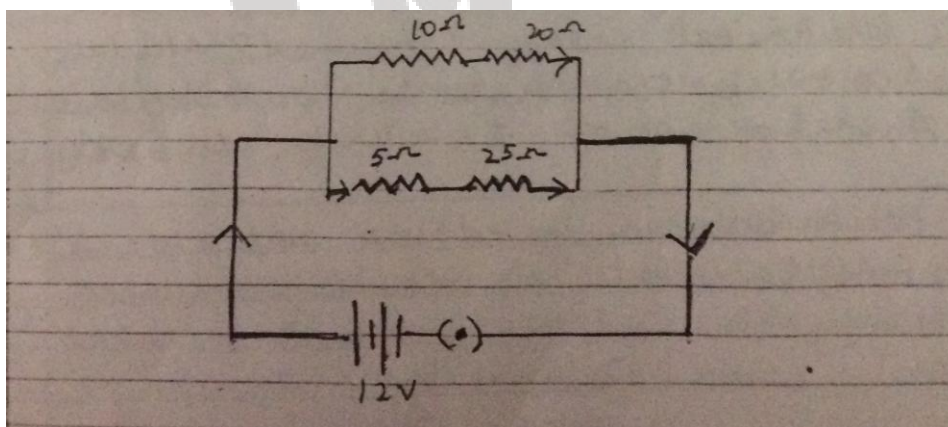
9. Five resistors, each 3Ω are connected as shown in Fig. Calculate the resistance between the points

- i) A and B
- ii) C and D

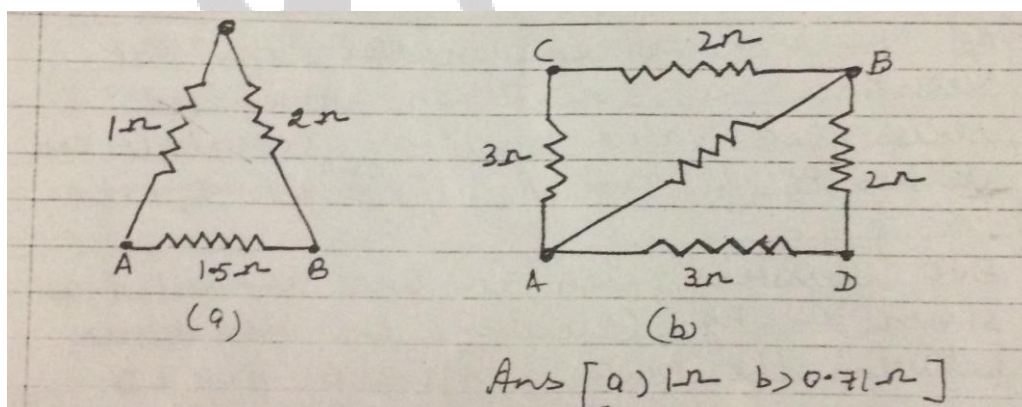


10. If a 12V battery is connected to the arrangement as shown in figure. Calculate

- The total effective resistance of the arrangement
- The total current flowing in the circuit [Ans. i) 15Ω ii) $0.8A$]



11. Calculate the effective resistance between the points A & B in the networks shown in figure (a) and (b)





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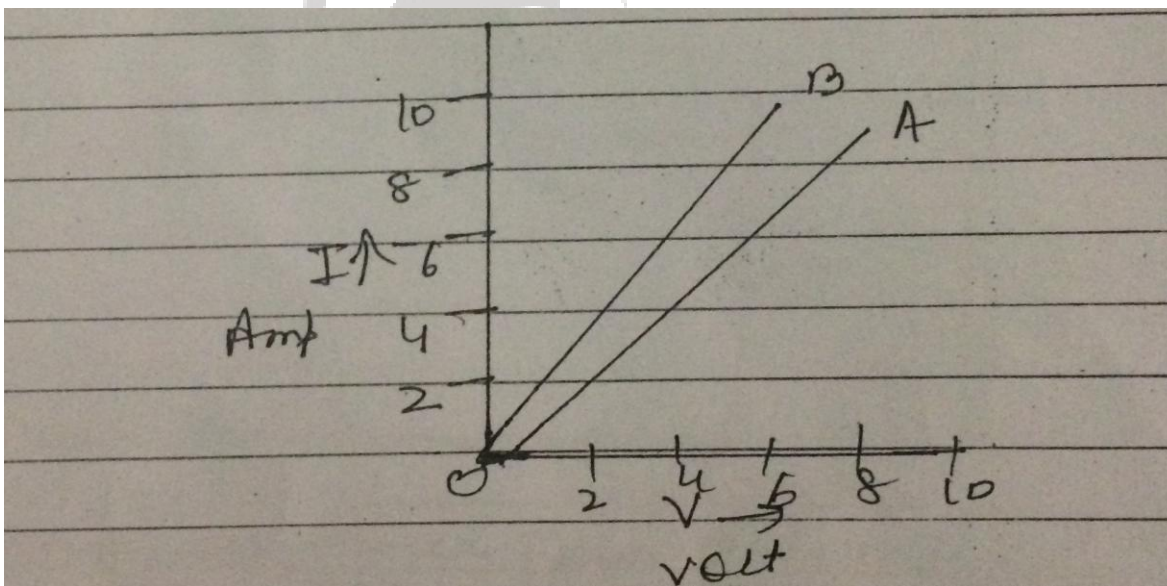
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12. A parallel combination of three resistors takes a current of 7.5 A from a 30 v supply. If two resistors are 10 Ω and 12 Ω . Find the third one. [Ans. 15 Ω]
13. A wire whose resistance is 80 Ω is cut into 3 pieces of equal lengths which are then arranged in parallel. Calculate the resistance of the combination. [Ans. 8.88 Ω]
14. An electric bulb is rated at 200v- 100w. What is its resistance? Five such bulbs burn for 4 hours what is the electrical energy consumed? Calculate the cost if the rate is 50 paise/unit. [Ans. $R=400\Omega$, $E=2$ unit, $\text{cost}=Rs1$]
15. A torch bulb is rated at 2.5 v and 750 mA. Calculate its i) Power ii) Resistance iii) Energy consumed if the bulb is lighted for 4 hours. [Ans. i) 1.875 w ii) $R= 3.33 \Omega$ iii) $E= 27000 J$]
16. Two coils of resistances 3 Ω and 6 Ω are connected in series across a battery of emf 12v. Find the electrical energy consumed in 1 minute in each resistance when these are connected in series. [Ans. 640 J]
17. Two bulbs A and B are rated 100w-120v and 10w-120v respectively. They are connected across a 120v source in series. Which will consume more energy. [Ans. Bulb B]
18. Calculate the amount of heat produced in an electric heater of resistance 100 Ω if 6A current is passed through it for 10 minutes. [Ans. 2.16×10^7]
19. An electric heater is rated at 1500 w. Calculate the heat produced per hour. [Ans. 5.4×10^6]
20. Calculate the power of a source if it produces an energy of 750 J in 30 seconds. [Ans. 25 w]
21. Calculate the time taken by 100 w bulb to consume 3000 J of energy. [Ans. 30 sec]
22. An electric bulb of resistance 80 Ω is connected to the main supply of 220 v. Find the power of the current. [Ans. 650 w]
23. Two lamps, one rated 100 w at 220 v and other 40 w at 220 v are connected parallel to 220 v mains supply. Calculate the current drawn from the supply line. [Ans. 0.63 A]
24. A household has a 100 w lamp lighted for 2 hours, two 60 w lamps lighted for 4 hours and an electric fan of 50 w working for 8 hours every day. Calculate the electric units consumed each day. [Ans. 1.08 units]
25. In a factory, an electric bulb of 500 w is used for 2 hours and an electric motor of 0.5 horse power is used for 5 hours every day. Calculate the cost of using the bulb and motor for 30 days. If the cost of electric energy is 3 Rs. Per unit. [Ans. 257.85]
26. Which one has less resistance a 60 w bulb or a 40 w bulb. Give reason.



27. Two resistances when connected in parallel give resultant value of 2Ω . When connected in series the value becomes 9Ω . Calculate the value of each resistance?
28. A wire of resistance 5Ω is bent in the form of a closed circle. What is the effective resistance between the two points at the ends of any diameter of the circle?
29. Graphs between electric current and potential difference across two conductors A and B are plotted as shown in the figure. Which of the two conductors has more resistance? Give reason



30. Why an ammeter is likely to burn out if it is connected in parallel?
31. n resistors each of resistance R are first connected in series and then in parallel. What is the ratio of the total effective resistance of the circuit in series combination and parallel combination?
32. A wire of uniform area of cross section is stretched to four times its original length. By what factor does resistivity change?
33. Calculate the power of a source if it produces an energy of 750 J in 30 seconds. [Ans. 25w]

Revise Electricity and its effects for Test in July.



SOCIAL SCIENCE (ECONOMICS)

Complete the assignment given from the chapter "Nationalism in India".

- Visit a Bank and understand the functioning of it. Also write a report on it.
- Complete the assignment given from the chapter "Federalism in India."

हिन्दी ग्रीष्मावकाश कार्य

1. महादेवी वर्मा द्वारा रचित 'पथ के साथी' कहानी संकलन पढ़ने के पश्चात किन्हीं पाँच कहानियों के मुख्य पात्रों के नाम व कहानी का सार अपनी पुस्तिका में लिखें।
2. प्रतिदिन हिंदी समाचार पत्र पढ़ें।
3. मैथिली शरण गुप्त की प्रमुख रचनाओं के नामों की सूची बनाइए।

GERMAN

1. Get Ready Seite Nr. 66, 67, 76, 77, 80, 84, 85, 86.
2. Lernt alle verbena and verbena mit prapositionen.
3. Revise all work done in class

SPANISH

1. Complete the given worksheet of comprehension tasks, Grammar Revision and writing task.

ENGLISH READING LIST

1. To Kill a Mocking Bird- Harper Lee
2. Roots- Alex Haley
3. The Third Wave- Alvin Toffler
4. The Hungry Tide- Amitabh Ghosh
5. The Shadow Lines- Amitabh Ghosh
6. Life of Pi- Yann Martel
7. The No. 1 Ladies Detective Agency- Alexander McCall Smith
8. A Lost Horizon- James Hilton
9. Random Harvest- James Hilton
10. The City of Djinns- William Dalrymple
11. Kane and Abel- Jeffrey Archer
12. A Twist in the Tale- Jeffrey Archer



13. Empire of The Moghul *Raiders from the North* –Alex Rutherford
14. The Twentieth Wife- Indu Sunderesan
15. The Feast of Roses- Indu Sunderesan

RECOMMENDED FILMS:

1. An Education
 2. Woman in Gold
 3. The Changeling
 4. Amelia
 5. Million Dollar Baby
 6. The Walk
 7. A Good Year
 8. A Beautiful Mind
 9. Sully
 10. Breakfast at Tiffany
 11. The Pianist
 12. The Boy in the Striped Pyjamas
 13. The Great Dictator
1. Complete the English Workbook
 2. Read The Diary of a Young Girl
 3. Read books from the Reading List and watch the Recommended Films.

BIOLOGY

LIFE PROCESSES

1. What happens to glucose that enters the nephron along with the filtrate?
2. What is the advantage of separate channels in mammals and birds for oxygenated and deoxygenated blood?
3. Draw a schematic representation of transport and exchange of oxygen and carbon dioxide during transportation of blood in human beings and label it.
4. Draw a sectional view of the human heart and label it.
5. Explain the process of digestion of food in mouth, stomach and small intestine in human body.
6. Complete the glucose breakdown pathway in case of aerobic respiration.
7. List four conditions required for efficient gas exchange in an organism.
8. Describe the functioning of nephron based on its structure.
9. Why is the inner wall of alimentary canal not digested although the digestive enzymes are present.
10. Write any two functions of large intestine.



CHAPTER 4- GEOGRAPHY- AGRICULTURE

1. Complete the following table.

Crop	Temperature & Rainfall	Soil Type	Major producers (two leading states)
Rice			
Wheat			
Sugarcane			
Cotton			
Rubber			

2. State two uses of Jute.

1. _____ 2. _____

3. Name four Natural fibres.

1. _____ 2. _____ 3. _____ 4. _____

4. Answer the following in one word/ sentence.

a) The three crops of paddy grown in the states of Assam, West Bengal and Odisha are _____.

b) Rabi crops are sown in Winter from _____ and Harvested in Summer from _____.

c) Kharif crops are grown with the onset of monsoon in different parts of the country and Harvested in _____.

d) Two examples of crops produced during ZAID season are _____ and _____.



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- e) Primitive Subsistence Farming is practiced on _____ with the help of _____.
- f) Slash and Burn agriculture is known as _____ in North Eastern states like Assam, Meghalaya, Mizoram and Nagaland.
- g) Intensive Subsistence Farming is practised in AREAS OF HIGH POPULATION PRESSURE ON LAND. It is a LABOUR INTENSIVE farming, where HIGH DOSES OF BIOCHEMICAL INPUTS AND IRRIGATION ARE USED FOR OBTAINING HIGHER PRODUCTION. TRUE / FALSE.
- h) The use of higher doses of modern inputs, e.g. high yielding variety (HYV) seeds, chemical fertilizers, insecticides and pesticides in order to obtain higher productivity are the salient features of _____.
- i) A type of commercial farming, in which a SINGLE CROP IS GROWN ON A LARGE AREA AND ALL THE PRODUCE IS USED AS RAW MATERIAL IN RESPECTIVE INDUSTRIES is known as _____.
- j) _____, _____, _____ and _____ are examples of important plantation crops.
- k) State the reforms initiated by the government of India to improve the productivity and Indian Agriculture.. (150 words.)



CHAPTER 4 – GEOGRAPHY - AGRICULTURE

CROPS AND CONDITIONS OF GROWTH

Temperature, Rainfall and Soil Conditions, Distribution- areas of cultivation

CROP	Conditions of Growth	Areas of cultivation
RICE	<p>Rice is a KHARIF CROP.</p> <p>Requires high Temperature above 25°C and High Humidity with Annual Rainfall above 100 Cm.</p> <p>In areas of less rainfall, it grows with the help of irrigation.</p> <p>Deltaic soils are ideal for the cultivation of Rice.</p>	<p>Rice is the STAPLE FOOD CROP of a majority of the people in India.</p> <p>India is the second largest producer of Rice in the World after China</p> <p>Rice is grown in the Plains of North and North Eastern India, Coastal areas and the Deltaic regions.</p> <p>Development of dense network of CANAL IRRIGATION and TUBEWELLS have made it possible to grow Rice in the areas of less rainfall such as PUNJAB, HARYANA, and Western UTTAR PRADESH. and parts of RAJASTHAN.</p>
WHEAT	<p>Wheat is a RABI CROP. It is the SECOND MOST IMPORTANT CEREAL CROP.</p> <p>It is the MAIN FOOD CROP, IN THE NORTH and NORTH – WESTERN PART OF THE COUNTRY.</p> <p>It requires a COOL GROWING SEASON and BRIGHT SUNSHINE at the time of ripening.</p> <p>It requires 50- 75 cms of Annual Rainfall EVENLY DISRTIBUTED OVER THE GROWING SEASON. Well Drained ALLUVIAL SOILS are ideal for the cultivation of Wheat.</p>	<p>There are TWO IMPORTANT WHEAT-GROWING ZONES IN THE COUNTRY:-</p> <p>a)The GANGA – SUTLUJ PLAINS in the NORTH- WEST.</p> <p>b) BLACK SOIL REGION of the DECCAN.</p> <p>MAJOR WHEAT PRODUCING STATES ARE- PUNJAB, HARYANA, UTTAR PRADESH, BIHAR, RAJASTHAN and parts of Madhya Pradesh.</p>



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RAGI (MILLET)	<p>It is an important MILLET CROP and also a COARSE GRAIN.</p> <p>It is very rich in Iron, Calcium, other Micro Nutrients and Roughage.</p> <p>RAGI is a crop of DRY REGIONS and GROWS WELL ON RED, BLACK, SANDY, LOAMY and SHALLOW BLACK SOILS,</p>	<p>MAJOR RAGI PRODUCING STATES ARE:-</p> <p>KARNATAKA, TAMIL NADU, HIMACHAL PRADESH, UTTARANCHAL, SIKKIM, JHARKAND and ARUNACHAL PRADESH.</p>
JOWAR (MILLET)	<p>JOWAR is a KHARIF CROP.</p> <p>It is an IMPORTANT MILLET GROP and also a COARSE GRAIN.</p> <p>It is the third most important food crop with respect to area and production,</p> <p>It is a RAIN – FED CROP, mostly grown in the MOIST AREAS WHICH HARDLY NEEDS IRRIGATION.</p>	<p>MAJOR JOWAR PRODUCING STATES ARE:-</p> <p>MAHARASHTRA, KARNATAKA, ANDHRA PRADESH and MADHYA PRADESH.</p>
BAJRA(MILLET)	<p>BAJRA is a KHARIF CROP.</p> <p>It is an IMPORTANT MILLET CROP and also a COARSE GRAIN.</p> <p>Bajra GROWS WELL ON SANDY SOILS and SHALLOW BLACK SOIL.</p>	<p>MAJOR BAJRA PRODUCING STATES ARE:-</p> <p>RAJASTHAN, UTTAR PRADESH, MAHARASHTRA, GUJARAT and HARYANA.</p>
MAIZE	<p>MAIZE IS A KHARIF CROP.</p> <p>In some states like BIHAR MAIZE IS GROWN IN RABI SEASON ALSO.</p> <p>Maize requires TEMPERATURE between 21°C - 27° C.</p> <p>It grows well in OLD ALLUVIAL SOIL.</p> <p>MAIZE is a crop which is used as both as FOOD and FODDER.</p> <p>USE OF MODERN INPUTS SUCH AS HYV SEEDS, FERTILISERS and IRRIGATION have contributed to the increasing production of MAIZE.</p>	<p>MAJOR MAIZE PRODUCING AREAS ARE:-</p> <p>KARNATAKA, UTTAR PRADESH, BIHAR, ANDHRA PRADESH and MADHYA PRADESH.</p>



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<p>PULSES</p>	<p>India is the largest producer and consumer of Pulses in the World.</p> <p>MAJOR PULSES GROWN IN INDIA ARE:- TUR (ARAHAR)-Kharif crop URAD – Kharif crop MOONG-Kharif crop MASUR- Rabi crop PEAS- Rabi crop GRAM- Rabi crop</p> <p>Pulses are MAJOR SOURCE of PROTEIN in a VEGETARIAN DIET.</p> <p>Pulses NEED LESS MOISURE.</p> <p>Pulses CAN SURVIVE IN DRY CONDITIONS.</p> <p>Pulses are LEGUMINOUS CROPS and EXCEPT ARHAR ALL PULSES CROPS HELP IN RESTORING SOIL FERTILITY BY FIXING NITROGEN FROM THE AIR.</p>	<p>As pulses except ARHAR help in NITROGEN FIXATION IN THE SOIL, these are mostly GROWN IN CROP ROTATION WITH OTHER CROPS.</p> <p>MAJOR PULSE PRODUCING STATES IN INDIA ARE:-</p> <p>MADHYA PRADESH, UTTAR PRADESH, RAJASTHAN, MAHARASHTRA and KARNATAKA.</p>
<p>SUGARCANE</p>	<p>It is a Tropical as well as a Sub tropical crop.</p> <p>It GROWS WELL IN HOT and HUMID CLIMATE.</p> <p>It Requires a TEMPERATURE of 21 °C - 27°C .</p> <p>ANNUAL RAINFALL required is BETWEEN 75 – 100 cm. IRRIGATION IS REQUIRED IN the regions of LOW RAINFALL.</p> <p>Sugarcane can be grown on a VARIETY OF SOILS.</p> <p>Sugarcane requires MANUAL LABOUR FROM SOWING TO HARVESTING.</p>	<p>India is the SECOND LARGEST PRODUCER OF SUGARCANE only after BRAZIL.</p> <p>MAJOR SUGARCANE PRODUCING STATES ARE:-</p> <p>UTTAR PRADESH, MAHARASHTRA, KARNATAKA, TAMILNADU, ANDHRA PRADESH, BIHAR, PUNJAB and Haryana.</p>
<p>TEA</p>	<p>Tea is a PLANTATION CROP.It is an IMPORTANT BEVERAGE CROP.</p> <p>Tea bushes REQUIRE WARM and MOIST FROST – FREE CLIMATE THROUGHOUT THE YEAR.</p> <p>FREQUENT SHOWERS EVENLY DISTRIBUTED</p>	<p>Tea is a NON – NATIVE CROP, as it was introduced in India initially by the British.</p> <p>MAJOR TEA PRODUCING STATES ARE:-</p> <p>ASSAM, DARJEELING and JALPAIGUDI</p>



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	<p>OVER THE YEAR ENSURES CONTINUOUS GROWTH OF TENDER LEAVES.</p> <p>The Tea plant GROWS WELL IN TROPICAL AND SUB- TROPICAL CLIMATES ENDOWED WITH DEEP AND FERTILE WELL- DRAINED SOIL, RICH IN HUMUS AND ORGNIC MATTER.</p> <p>Tea is a LABOUR INTENSIVE INDUSTRY. It REQUIRES ABUNDANT, CHEAP and SKILLED LABOUR.</p>	<p>in WEST BENGAL, TAMIL NADU and KERALA.</p> <p>It is also GROWN IN – HIMACHAL PRADESH, UTTARAKHAND, MEGHALAYA, ANDHRA PRADESH and TRIPURA.</p> <p>In 2008 India was the THIRD LARGEST PRODUCER OF TEA AFTER CHINA and TURKEY.</p> <p>Tea is processed within the tea garden to restore its freshness.</p>
COFFEE	<p>Coffee is a Plantation crop and an Important BEVERAGE CROP.</p> <p>The ARABICA VARIETY initially brought from YEMEN is produced in the country. ARABICA VARIETY IS IN GREAT DEMAND ALL OVER THE WORLD.</p>	<p>INDIAN COFFEE IS KNOWN IN THE WORLD FOR ITS GOOD QUALITY.</p> <p>Initially COFFEE CULTIVATION was INTRODUCED ON THE BABA BUDAN HILLS and even today its cultivation is confined to the NILGIRI IN KARNATAKA, KERALA and TAMIL NADU.</p>
RUBBER (NON-FOOD CROP)	<p>It is an EQUATORIAL CROP, BUT UNDER SPECIAL CONDITIONS.</p> <p>It is ALSO GROWN IN TROPICAL and SUB – TROPICAL areas.</p> <p>It REQUIRES MOIST AND HUMID CLIMATE, WITH RAINFALL OF MORE THAN 200cm and TEMPERATURE ABOVE 25°C.</p> <p>Rubber is an IMPORTANT INDUSTRIAL MATERIAL.</p>	<p>In 2010 – 11, INDIA ranked FOURTH among the WORLD'S NATURAL RUBBER PRODUCERS.</p> <p>MAJOR RUBBER PRODUCING STATES ARE:-</p> <p>KERALA(LEADING /LARGEST PROUCER) TAMIL NADU, KARNATAKA, and ANDAMAN and NICOBAR Islands, GARO HILLS in MEGHALAYA.</p> <p>ITEMS MADE OF RUBBER THAT ARE USED BY US INCLUDE:-</p> <p>Auto Tyres and Tubes, CycleTyres and tubes, Camel Back, Footwears , Belts and Hoses, Latex Foam, Dipped Goods etc.</p>



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<p>COTTON (NATURAL FIBRE CROP)</p>	<p>COTTON IS A KHARIF CROP and REQUIRES 6 TO 8 MONTHS TO MATURE.</p> <p>Cotton GROWS WELL IN DRIER PARTS OF THE BLACK COTTON SOIL OF THE DECCAN PLATEAU.</p> <p>IT REQUIRES HIGH TEMPERATURE, LIGHT RAINFALL OR IRRIGATION.</p> <p>IT RQUIRES 200 FROST FREE DAYS and BRIGHT SUNSHINE FOR ITS GROWTH.</p>	<p>India is believed to be the ORIGINAL HOME OF THE COTTON PLANT.</p> <p>Cotton is one of the MAIN RAW MATERIALS FOR THE COTTON TEXTILE INDUSTRY.</p> <p>In 2008 India was the LARGEST PRODUCER OF COTTON AFTER CHINA.</p> <p>MAJOR COTTON PRODUCING STATES ARE:- MAHARASHTRA, GUJARAT, MADHYA PRADESH, KARNATAKA, ANDHRA PRADESH, TAMILNADU, PUNJAB, HARYANAandUTTAR PRADESH.</p>
<p>JUTE(NATURAL FIBRE CROP)</p>	<p>Jute is known as " GOLDEN FIBRE" . It is a PLANTATION CROP.</p> <p>Jute REQUIRESHIGH TEMPERATURE DURING THE TIME OF ITS GROWTH.</p> <p>JUTE GROWS WELL ON WELL- DRAINED FERTILE SOILS IN THE FLOOD PLAINS WHERE SOILS ARE RENEWED EVERY YEAR.</p> <p>Jute Industry is a LABOUR INTENSIVE INDUSTRY.</p> <p>Due to its HIGH COST , IT IS LOSING MARKET TO SYNTHETIC FIBRES and PACKAGING MATERIALS , PARTICULARLY THE NYLON</p>	<p>India is theLARGEST PRODUCER of RAW JUTE and STANDS at SECOND PLACE as an EXPORTER AFTER BANGLADESH.</p> <p>Jute is USED IN MAKING GUNNY BAGS, MATS, ROPES, YARN, CARPETS and other artifacts.</p> <p>MAJOR JUTE PROCING STATES ARE:- WEST BENGAL, BIHAR, ASSAM, ODISHA and MEGHALAYA.</p>