

St. Mary's School, Dwarka
Holiday Homework
Class XII
Week 2
Worksheet 2

Subject: English

M.M-25

Q1. Read the following passage carefully.

1. A British survey found that 44% of the firms, which started to use robots, met with initial failure and 22% abandoned them altogether, mainly because of inadequate technological know-how and skills at all plant levels.
2. Robotization is, by and large, a viable proposition. The machines can work round the clock, raise output, protect quality and industrial competitiveness.
3. One robot can replace between two and five production workers, while providing cheaper labour. In the US car industry, a man-hour costs around 23 dollars but a robot-hour costs around 6 dollars.
4. Certain jobs, mostly simple of hazardous ones, are irretrievable lost to robotics. Thus, spot welders, press operators, spray painters, cleaners, machine loaders, grinding and polishing machine operators are endangered species.

Based on the understanding of the passage, answer the questions given below: (1X5=5)

- a) What does the writer say about the inceptive failure of robots?
- b) In what sense is the word 'robotization' used in the second paragraph?
- c) What are robots a substitute for?
- d) What does the expression 'viable proposition' mean?
- e) In its context the expression 'endangered species' means _____.

Q2. Prepare a poster for an Inter-School Poetry Recitation Contest that the Hindi Sahitya Sabha of D.A.V. Sr. Sec. School, Ambala is organizing to celebrate the birthday of Munshi Prem Chand. You are the secretary of the Hindi Sahitya Sabha. (Word limit- 50 words) (3)

Q3. You, Avinash Aneja, the Librarian, Vivekananda Senior Secondary School, Vikas Puri, Delhi had ordered two sets each of World History in Pictures (5 Volumes), Nature Study (16 Volumes), and The Story of Science (16 Volumes) from M/s Universal Book Suppliers, 14, Ram Nath, Chandni Chowk, Delhi. Unfortunately, on the receiving the books, you found that some volumes were missing in the sets and some were damaged. Write a letter complaining about the defective, deficient supply and ask them to rectify the situation in not more than 150-200 words. (5)

Q4. Read the extracts given below and answer the questions that follow:

(1X6=6)

I. ‘His face, I see, has lost the carefree look. The steel canister seems heavier than the plastic bag he would carry so lightly over his shoulders. The bag was his. The canister belongs to the man who owns the tea shop. Saheb is no longer his own master!’

- a) **Why had his face lost the carefree look?**
- b) **Why was the steel canister heavier than his bag?**
- c) **What has been the effect of the changed situation on Saheb?**

II. ‘...of a corpse and realized with pain
that she was as old as she looked but soon
put that thought away, and looked out at Young
Trees sprinting, the merry children spilling
out of their homes...’

- a) **What did the poet realize with pain?**
- b) **What did she do after the painful realization dawned upon her?**
- c) **Which poetic device is used in ‘trees sprinting’?**

Q5. Answer the following questions briefly in 30-40 words.

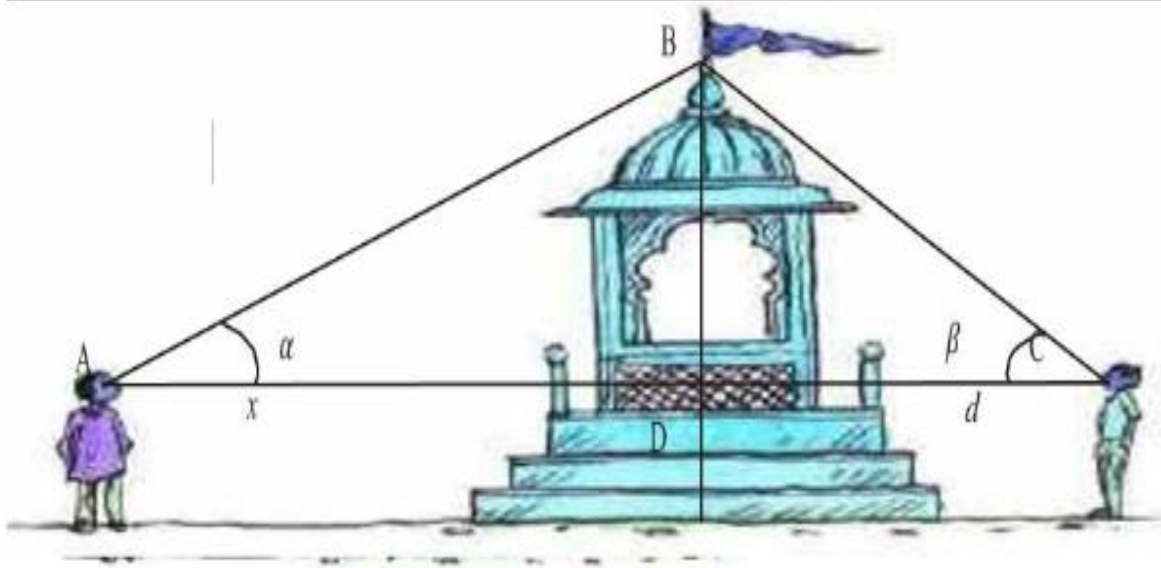
(2X3=6)

- a) The announcement of the change in government left M. Hamel heartbroken. How did Franz realize this?
- b) The poem (My Mother at Sixty-Six) has come to a full cycle through the thought process of the poet. Comment.
- c) Bring out the irony in Saheb’s name.

Subject – Mathematics**(INVERSE TRIGONOMETRIC FUNCTIONS)**

Q1	If $y = \cot^{-1}(\sqrt{\cos x}) - \tan^{-1}(\sqrt{\cos x})$, prove that $\sin y = \tan^2 \frac{x}{2}$.
Q2	If $\cos^{-1} \frac{x}{a} + \cos^{-1} \frac{y}{b} = \alpha$, prove that $\frac{x^2}{a^2} - \frac{2xy}{ab} \cos \alpha + \frac{y^2}{b^2} = \sin^2 \alpha$
Q3	Prove that : $\tan^{-1} \frac{1-x}{1+x} - \tan^{-1} \frac{1-y}{1+y} = \sin^{-1} \frac{y-x}{\sqrt{1+x^2} \sqrt{1+y^2}}$
Q4	Prove that $\tan \left\{ \frac{\pi}{4} + \frac{1}{2} \cos^{-1} \frac{a}{b} \right\} + \tan \left\{ \frac{\pi}{4} - \frac{1}{2} \cos^{-1} \frac{a}{b} \right\} = \frac{2b}{a}$
Q5	Solve the following equations : (i) $\tan^{-1} \frac{x-1}{x-2} + \tan^{-1} \frac{x+1}{x+2} = \frac{\pi}{4}$ (ii) $\tan^{-1} 2x + \tan^{-1} 3x = \frac{\pi}{4}$ (iii) $\tan^{-1} \frac{x-1}{x+1} + \tan^{-1} \frac{2x-1}{2x+1} = \tan^{-1} \frac{23}{36}$ (iv) $2 \tan^{-1}(\cos x) = \tan^{-1}(2 \operatorname{cosec} x)$
Q6	Solve the following equations : (i) $\sin^{-1} \frac{3x}{5} + \sin^{-1} \frac{4x}{5} = \sin^{-1} x$ (ii) $\sin^{-1}(1-x) - 2 \sin^{-1} x = \frac{\pi}{2}$ (iii) $\sin[2 \cos^{-1}\{\cot(2 \tan^{-1} x)\}] = 0$
Q7	If $\cos^{-1} \frac{x}{2} + \cos^{-1} \frac{y}{3} = \alpha$, then prove that $9x^2 - 12xy \cos \alpha + 4y^2 = 36 \sin^2 \alpha$.
Q8	Solve: (1) $\cos^{-1} \left(\frac{x^2-1}{x^2+1} \right) + \tan^{-1} \left(\frac{2x}{x^2-1} \right) = \frac{2\pi}{3}$ (2) $\sin 6x + \sin^{-1} 6\sqrt{3}x = -\frac{\pi}{2}$
Q9	If $(\tan^{-1} x)^2 + (\cot^{-1} x)^2 = \frac{5\pi^2}{8}$, then find x
Q10	If $\tan^{-1} \left(\frac{1}{1+1.2} \right) + \tan^{-1} \left(\frac{1}{1+2.3} \right) \dots \tan^{-1} \left(\frac{1}{1+n(n+1)} \right) = \tan^{-1}(x)$, then find x

CASE STUDY1:



Two men on either side of a temple of 30 meters high observe its top at the angles of elevation α and β respectively. (as shown in the figure above). The distance between the two men is $40\sqrt{3}$ meters and the distance between the first person A and the temple is $30\sqrt{3}$ meters. Based on the above information answer the following:

1. $\angle CAB = \alpha =$

- a. $\sin^{-1}(2\sqrt{3})$
- b. $\sin^{-1}(12)$
- c. $\sin^{-1}(2)$
- d. $\sin^{-1}(\sqrt{32})$

2. $\angle CAB = \alpha =$

- a. $\cos^{-1}(15)$
- b. $\cos^{-1}(25)$
- c. $\cos^{-1}(\sqrt{32})$
- d. $\cos^{-1}(45)$

3. $\angle BCA = \beta =$

- a. $\tan^{-1}(12)$
- b. $\tan^{-1}(2)$
- c. $\tan^{-1}(1\sqrt{3})$
- d. $\tan^{-1}(\sqrt{3})$

4. $\angle ABC =$

- a. $\pi/4$
- b. $\pi/6$
- c. $\pi/2$
- d. $\pi/3$

5. Domain and Range of $\cos^{-1}x =$

- a. $(-1, 1), (0, \pi)$
- b. $[-1, 1], (0, \pi)$
- c. $[-1, 1], [0, \pi]$
- d. $(-1, 1), [-\pi/2, \pi/2]$

Subject – Economics

- Q1. Give meaning of money supply. State its components. (2)
- Q2. Define Credit Multiplier. What role does it play in determining the credit creation power of the banking system? Use a numerical illustration to explain. (2)
- Q3. How does a central bank control the availability of credit by open market operation? (2)
- Q4. Explain the role of the Reserve Bank of India as the “lender of last resort”. (2)
- Q5. Explain ‘Banker’s Bank’ function of central bank. (3)
- Q6. Explain ‘Government’s bank’ function of central bank. (3)
- Q7. Explain central bank’s function as currency authority. (3)
- Q8. Explain the components of Legal Reserve Ratio. (3)
- Q9. Explain the role of reverse repo rate in controlling money supply. (5)
- Q10. Explain any two methods of credit control used by Central Bank. (5)

Subject – Psychology

- Q1. Intelligence tests provide a _____ of a person's general cognitive competence including the ability to profit from schooling. (1)
- Q2. Aptitude tests are used to predict what an individual will be able to do if given proper _____ and _____. (1)
- Q3. Define intellectual deficiency. (2)
- Q4. What is Buddhi ? (2)
- Q5. State the characteristics of individuals with type A personality. (3)
- Q6. You have assessed 20 peers of your class for mathematical comprehension/ Knowledge. Create a distribution for the results you are most likely to expect. What is the shape of this distribution? (3)
- Q7. How can a faulty behaviour be modified with token economy? Elucidate with the help of an example. (4)
- Q8. The evidence for hereditary influences on intelligence comes mainly from studies of twins and adopted children. With respect to the role of environment, studies have reported that as children grow in age, their intelligence level tends to move closer to their adopted parents. Children from disadvantaged home adopted into families of higher socio economic status exhibit in a large increase in their intelligence scores. There is an evidence that environmental deprivation lowers intelligence while rich nutrition, good family background and quality schooling increases intelligence. There is a general consensus among psychologists that intelligence is the product of complex interaction of heredity and environment. Heredity can be viewed as something that sets a range within which an individual's development is shaped by the support and opportunities of the environment. Studies have also shown correlation between twins reared together (.60) and siblings reared together (.50) and sibling reared apart (.25) to share intelligence. (4)

i. As children grows in age, their_____ tends to closer to their adoptive parents.

a. Moral value b. Mental level c. Intelligence level d. All the above

ii. Environmental deprivation lowers_____

a. Insight Ness b. Intelligence c. wisdom d. None of the above

iii. The evidence for the hereditary influences on intelligence comes mainly from

a. studies of twins b. studies of adopted children c. both a & b d. neither a & nor b

iv. children from disadvantaged homes adopted into families of higher socio-economics status exhibit a large increase in their _____.

a. educational status b. intelligence scores c. social status d. All the above

Q9. Rehaan is good at solving mathematical problems. Which intelligence according to Gardener would he excel in? Write the key characteristics of multiple intelligence. (5)

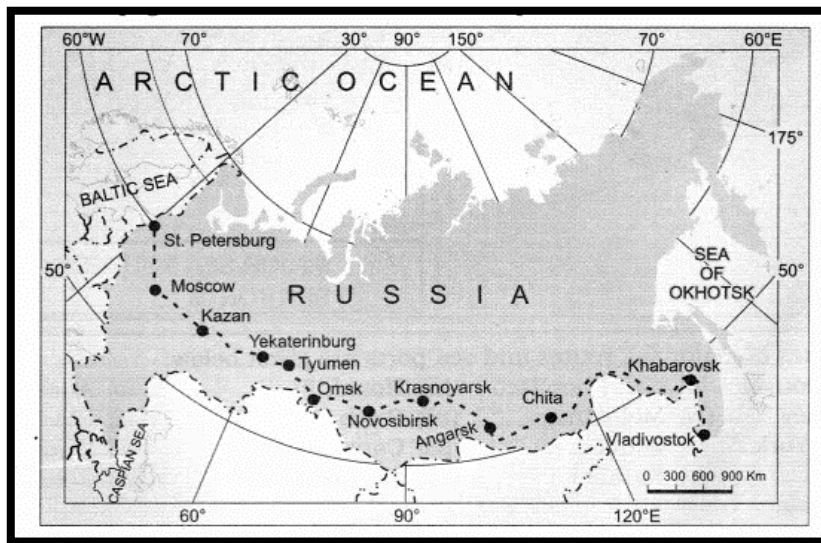
Q10. How do Alfred Adler and Karen Horney Explain personality development? (5)

Subject – History

1. Give any two features of Harappan writing. (3)
2. How have historians provided new insight into the subsistence strategies of the Harappan culture? (3)
3. Write the raw materials required for craft production in the Harappan civilisation. (3)
4. What were the differences in the techniques adopted by Marshall and Wheeler in studying Harappan civilization? (3)
5. What were the differences in the techniques adopted by Marshall and Wheeler in studying Harappan civilization? (3)
6. How do inscription help in reconstruction of history? (3)
7. Explain main features of Ashoka's Dhamma? (3)
8. Explain the role of the sub-committees for coordinating military activities. (3)
9. How did architectural features of Mohenjodaro indicate planning? Support the statement with examples. (6)

Subject – Geography

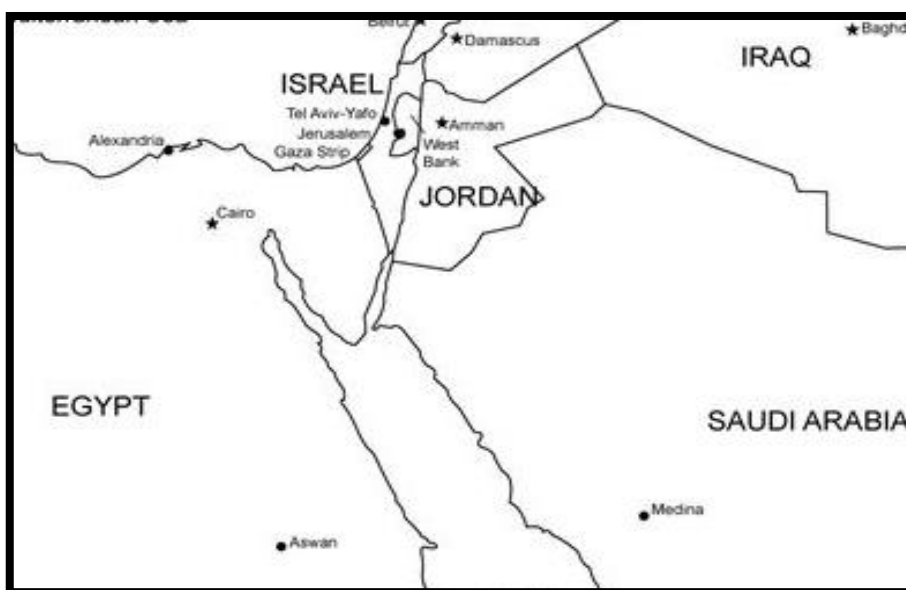
Q1. Study the map carefully and answer the questions that follows: -



1. Identify the railway line shown in the map. (1)
2. Name two ocean coasts which are being connected by this line. (1)
3. Write significance of this railway line. (3)

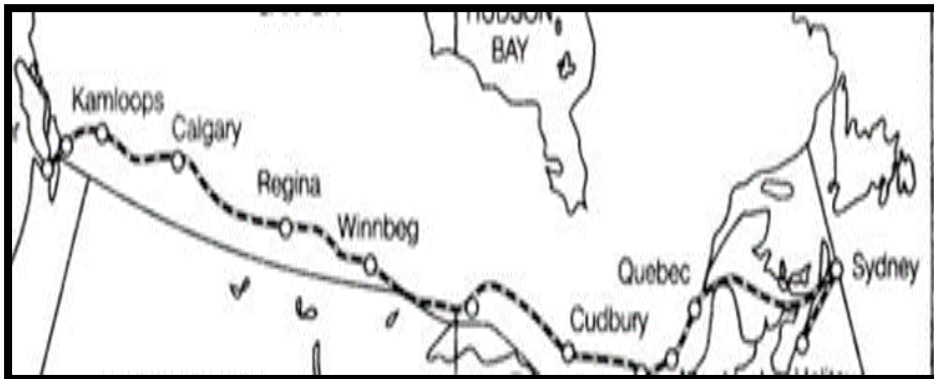
Q2. Study the map carefully and answer the questions that follows-

1. Identify the type of waterway (1)
2. Name the seas connected through this waterway (1)
3. Name the end ports of this waterway (2)



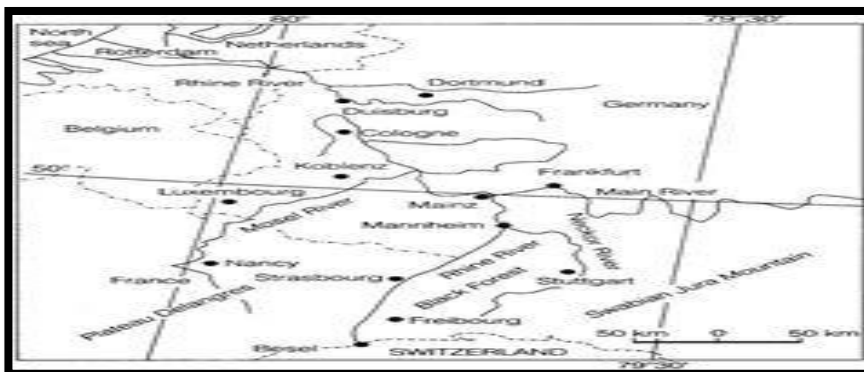
Q3. Study the given map carefully and answer the questions that follows: -

1. Identify the railway line in the given map. (1)
2. Name the terminal station to east and the west coast (1)
3. Mark the oceans lying to the east and west of the terminal stations. (1)



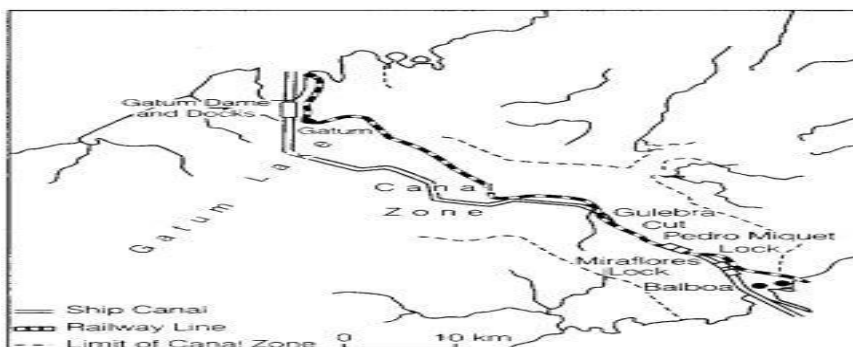
Q4. Study the given map and answer the questions: -

1. Name the type of waterway and name the countries served by this waterway. (1)
2. Why it is considered important for Europe. (1)



Q5. Study the map carefully and answer the questions: -

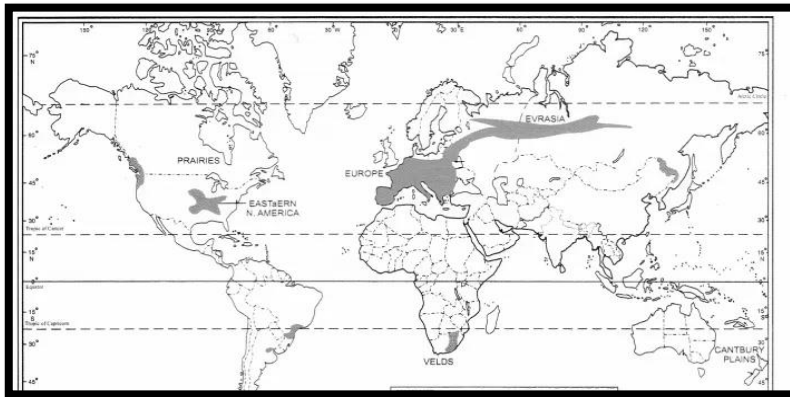
1. Identify the canal Zone and write its importance. (1)
2. Name the terminal points of this canal zone and the connecting seas. (1)
3. Explain is the lock system of this canal. (1)



Q6.

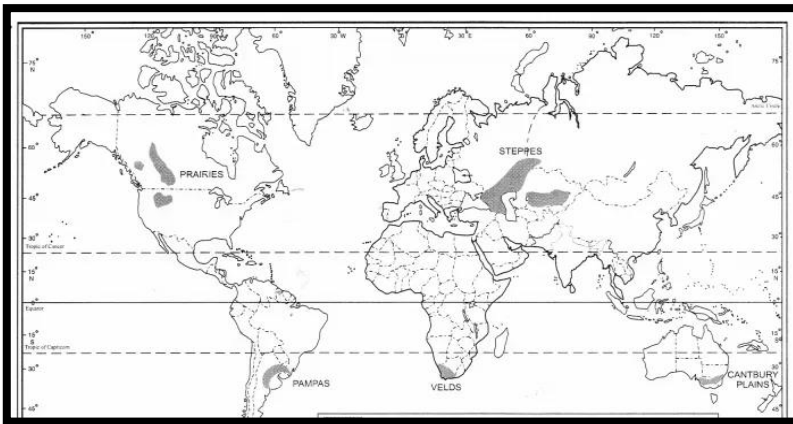
Study the given map and answer the questions that follows-

1. Identify the type of agriculture practiced in the shaded areas (1)
2. Write 5 characteristics associated with this type of practice (2)

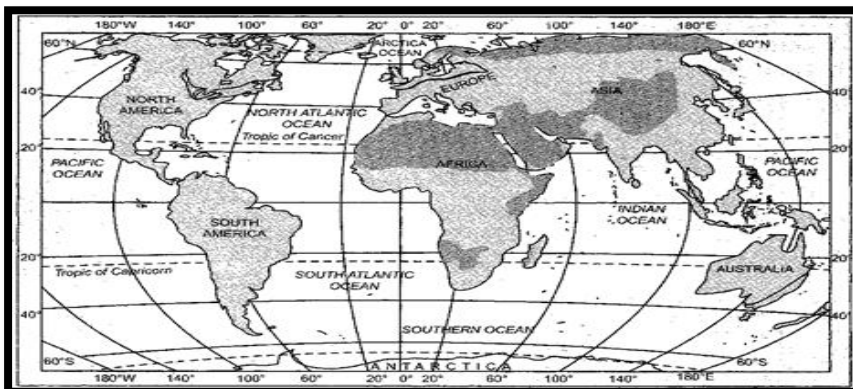


Q7. Study the given map carefully and answer the questions that follows-

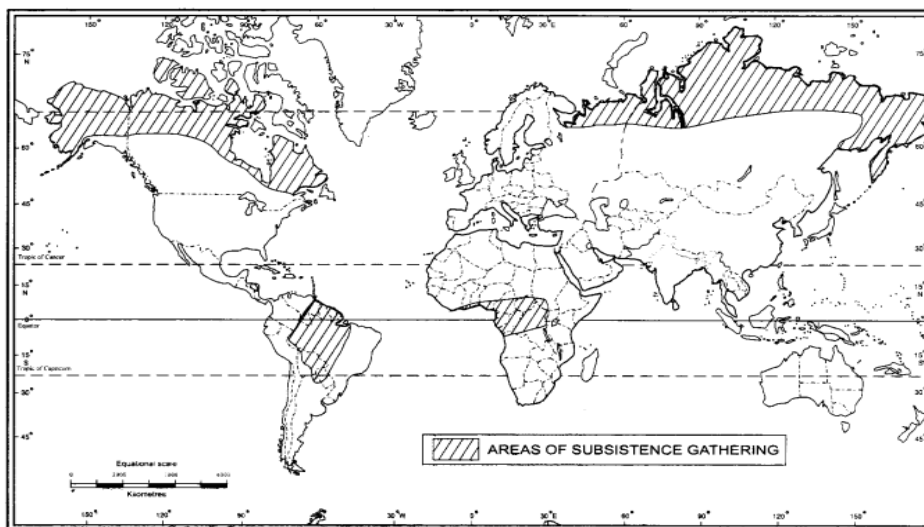
1. Identify the type of cultivation (1)
2. Name the major crops cultivated in these areas. (1)
3. 'Low yield per acre but high yield per person' justify the statement. (2)



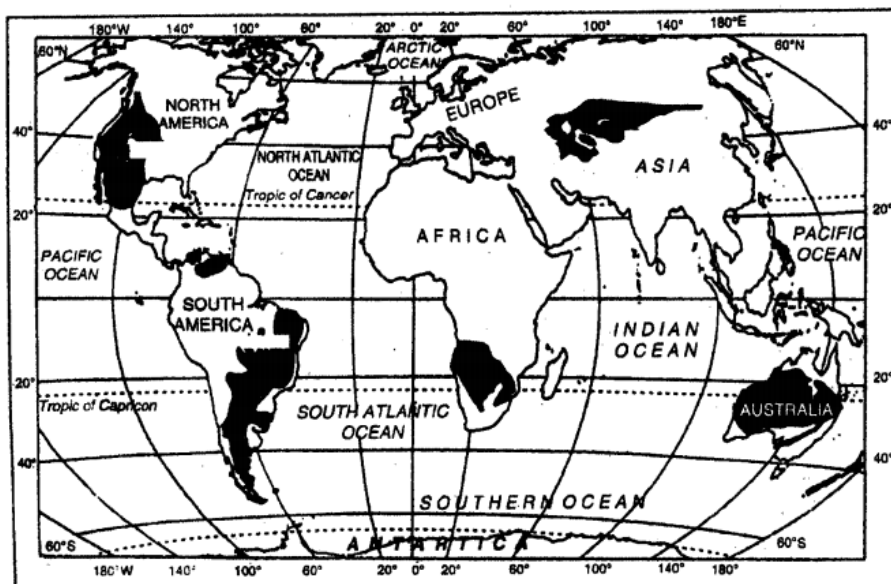
- Q8 Identify the region where this type of agriculture is practiced. Give reason for its decreasing trend. (2)



- Q9 Look at the map given below and identify the type of activity is practiced and write important characteristic of this type of cultivation (2)



- Q10 Identify and write the characteristics of this type of economic activity (2)



Subject – Political Science

- Q.1 Why the Western and Eastern alliances were called so? (2)
- Q.2 Give one argument given by the supporters of the US action of dropping atomic bombs. (2)
- Q.3 What was the consequence of the end of the Second World War? Give reasons. (2)
- Q.4 Discuss any three features that distinguish the Soviet economy from that of a capitalist country like the US? (2)
- Q.5 Give an example each of the three kinds of hegemony that are dealt with in the chapter. Do not cite examples that are in the chapter. (3)
- Q.6 'Reforming the UN means restructuring of the Security Council'. Do you Agree with this statement? Give arguments for or against this position. (3)
- Q.7 Nuclear weapons as deterrence of defence have limited usage against contemporary security threats to state. Explain the statement. (3)
- Q.8 Write a short note on the role and the limitations of SAARC as a forum for facilitating economic cooperation among the South Asian countries. (3)
- Q.9 Examine Indo-Pak relations in the light of recent developments. (5)
- Q.10 Discuss India's relations with Bangladesh. (5)

Subject – Physical Education

1. How many teams will be placed in IIIrd quarter if 31 teams are participating in a knock-out tournament? (1)
(a) 6 (b) 7 (c) 8 (d) None
2. Intramurals are significant for: (1)
(a) Physical development (b) Mental development
(c) Social development (d) All the above
3. Which sports competition is organised within the school? (1)
(a) Inter state (b) Extramural
(c) Intramural (d) None of these
4. Define and classify 'fixtures'. Draw a league fixture for 16 teams. (5)
5. What do you mean by combination tournament? Discuss league cum knock-out and knock-out cum league with the help of examples. (5)
6. What do you mean by planning? Elucidate the objectives of planning in sports in detail. (5)
7. What is a league tournament? Draw a fixture of six teams using round robin method. (5)
8. Explain macro nutrients. (5)
9. What do you understand by non-nutritive components of diet? Explain in detail. (5)
10. Explain nutritive components of diet. (5)