

## MOCK TEST PAPER

> - PAPER - I This paper contains 50 objecti ve type questions. Each question carries 2 marks. Attempt all the questions.
> PAPER - II This paper contains 50 objective type questions. Each question carries 2 marks. Attempt all the questions.
> PAPER - III This paper contains 75 objective type questions. Each question carries 2 marks. Attempt all the questions. (According to the NEW PATTERN)
> For IIT-JAM, JNU, GATE, NET, NIMCET and Other Entrance Exams
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## PAPER-I

1. A manager must discover various $\qquad$ analyze the reasons for their occurrence and take preventive steps.
(A) Cause to communication
(B) Barrier to communication
(C) Both (a) and (b)
(D) None
2. "It is communication of feelings, emotions, attitudes, and thoughts through body movements / gestures / eye contact, etc." which type of communication is this?
(A) Oral communication
(B) Written communication
(C) Non verbal communication
(D) None
3. Which of the following is a part of the English language which helps us to understand sounds of various alphabets?
(A) Phonetics
(B) Homophones
(C)Both (a) and (b)
(D) None

Questions 4-8 Study the follow ing graph carefully to answer the given questions. PRODUCTION OF TWO COMPANIES A AND B (IN CRORE UNITS) OV ER THE GIVEN YEARS

4. For Company A, how much is the percent increase in production in 2000 from 1999?
(A) 0.25
(B) 2.5
(C) 25
(D) 12.5
5. How many units is the total production of Company A for the given years?
(A) 9 crores
(B) 17.75 crores
(C) 12.25 crores
(D) 11 crores
6. What is the difference in units produced by the two companies in 1999 ?
(A) $1,50,000,000$
(B) $15,00,00,000$
(C) $15,00,000$
(D) 15,000
7. How many units is the approximate average production of Company $B$ for the given years?
(A) 3crores
(B) 2.55 crores
(C) 2.75 crores
(D) 2.25 crores
8. In which year did both the companies have no change in production from the previous year?
(A) 2000
(B) 2002
(C) 2003
(D) 2004
9. If sampled in reconnaissance mode, datalimitation requires use of
(A) Maximum
(B) Mnimum
(C) Both (a) and (b)
(D) None
10. If estimating average concentrations is planned
(A) Exposure units must be defined
(B) Sufficient samples are required
(C) Both (a) and (b)
(D) None
11. Which Can be used to evaluate if constituents in subsurface are correlated and have the same or different sources?
(A) Scatter plots
(B) Ratio plots
(C) Multivariate plots
(D) None
12. Which of the following Can be used to evaluate if ratios of constituents in subsurface are similar or different from those in indoor/outdoor air?
(A) Scatter plots
(B) Ratio plots
(C) Multivariate plots
(D) None
13. Which of the following collection techniques $w$ ere used as the primary research methods for this study?
(A) Qualitative
(B) Quantitative
(C) Both (a) and (b)
(D) None
14. in order to organize, classify and analyze the gathered information, used
(A) Graphs
(B) Statistics
(C) Both (a) and (b)
(D) None

Direction (15-19) The strength of Indian Democracy lies in its tradition, in the fusion of the ideas of democracy and national independencew hich w as the characteristic of the Indian Nationalist Movement long before independence. Although the British retained supreme authority in India until 1947, the provincial elections of 1937 provided real exercise in democratic practice before national independence. During the Pacific war India was not overrun or seriously invaded by the Japanese and after the war was over, the transfer of pow er to a government of the Indian Congress Party was a peaceful one as far as Britain was concerned. By 1947 'Indianisation' had already gone far in the Indian Civil Service and Army, so that the new government could start w ith effective instruments of central control. After independence, how ever, India was faced with two vast problems; the first, that of economic grow th from a very low level of production and the second was that of ethnic diversity and the aspirations of sub nationalities. The Congress leadership was more aw are of the former problem than of the second. As a new political elite which had rebelled not only against the British Raj but also against India's old social order, they w ere conscious of the need to initiate economic development and undertake social reforms, but as nationalists $w$ ho had led a struggle against the alien rule on behalf of all parts of India,
they took the cohesion of the Indian nation too much for granted and underestimated the centrifugal forces of ethnic division, which were bound to be accentuated rather than diminished as the popular masses were more and more drawn into politics. The Congress party was originally opposed to the idea of recognizing any division of India on a linguistic basis and preferred to retain the old provinces of British hdia which often cut across linguistic boundaries. However, this was later conceded as the basis for a federal Indian Union'. The rights granted to the States created new problems for the Central Government. The idea of making Hindi the national language of a united India was thwarted by the recalcitrance of the speakers of other important Indian languages and the autonomy of the States rendered central economic planning extremely difficult. Land reforms remained under the control of the States and many large-scale economic projects required a degree of cooperation betw een the Central Government and one or more of the States which, it was found, $w$ as impossible to achieve. Coordination of policies was difficult even when the Congress party was in pow er both in the State and at the Centre. When a Congress Government in Delhi was confronted with non-Congress parties in office in the States, it became much harder.
15. Which of the following problems was India facedw ith after Independence?
(A) Mlitary attack from a country across the border.
(B) Lack of coordination betw een the Central and State Governments.
(C) Improper coordination of various Government policies
(D) Increasing the production froma very low level
16. Which of the following issues was not appropriately reaized by the Central Government.
(A) Ehnic diversity of the people
(B)A national language for the country
(C) Implementation of the formulated policies
(D) Centre -State relations
17. Why w as central economic planning found to be difficult?
(A) Multiplicity of States and Union Territories
(B) Lack of coordination in different Government de partments
(C) Autonomy given to the States in certain matters
(D) Lack of will in imple menting land reforms
18. Why $w$ as the linguistic reorganization of the State accepted?
(A) The States w ere not cooperating w ith the Central Government
(B) Non- Congress Governments in the States demanded such a reorganization of the States
(C) No common national language e merged
(D) Strong pressure from the States was exerted on the Central Government to create such States
19. Which, according to the passage, can be cited as an exercise in democratic practice in India before Independence?
(A) The handing over of pow er by the British to India
(B) The Indianisation of the Indian Civil Service
(C) A neutral role played by the Army
(D) None of the above
20. The information to be collected in survey method are related to
(A) Present Position
(B) Aims of the research
(C) The attainment of aim of research
(D) All of the above
21. Research is done for
(A) Know ledge of research process
(B) Solving a business problem
(C) Interest in research
(D) Experience

22 A research problem is feasible only $w$ hen
(A) It is researchable
(B) It has some utility
(C) It is new
(D) All of the above
23. One of the essential characteristics of research is
(A) Sensitivity
(B) Generalizability
(C) Usability
(D) Replicability
24. Identify the main Principle on w hich the Parliamentary System operates.
(A) Responsibility of Executive to Legislature
(B) Supremacy of Parliament
(C) Supremacy of Judiciary
(D) Theory of Separation of pow er
25. The reservation of seats for women in the Panchayat Raj Institutions is :
(A) $30 \%$ of the total seats
(B) $33 \%$ of the total seats
(C) $33 \%$ of the total population
(D) None
26. Match list I with list II and select the correct from the code given below :

List I (Institutions)

1. Indian Veterinary Research Institute
2. Institute of Armament Technology
3. Indian Institute of Science

List II (Locations)
i. Pune
ii. Izat Nagar
iii. Delhi
4. National hstitute for Educational Pannesi and Administrators vi. Bangalore
(A) 1-ii, 2-i, 3-iv, 4-iii
(B) 1-ii, 2-iv, 3-ii, 4-iii
(C) 1-ii, 2-iii, $3-\mathrm{I}, 4-\mathrm{i}$
(D) 1-iv, 2-iii, 3-ii, 4-i
27. Who $w$ as chairman of the UGC committee 1969 appointed for administrative legislation of the universities?
(A). Dr. Zakir Hussain
(B) Dr. PB Gaje ndragadkar
(C) Dr. L S Mudaliar
(D) Dr. Radha Krishnan
28. UGChas launched career oriented program in
(A) 1964-65
(B) 1994-95
(C) 1997-98
(D) 1980-81
29. The prime minister of India is appointed from $\qquad$
(A) The leading Party in Lok Sabha
(B) The Leading Party in Rajya Sabha
(C) The leading party in Lok Sabha and Rajya Sabha combined
(D) None of the above
30. The study of interrelations betw een Organism and their environment is called $\qquad$
(A) Biosphere
(B) Ecology
(C) Synecology
(D) Autecology
31. The ter m ICT is now also used to refer to the convergence of
(A) Audio visual
(B) Telephone netw ork
(C) Both (a) and (b)
(D) None

32 Which $w$ as the first National Park established in India?
(A) Anshi National Park
(B) Gir National Park
(C) Kanha National Park
(D) Jim Corbett National Park

33 Fossil Fuels include
(A) Oil
(B) Natural Gas
(C) Coal
(D) All of the above

34 Noise in excess of $\qquad$ is called noise pollution
(A) $40-65 \mathrm{db}$
(B) $60-70 \mathrm{db}$
(C) $80-100 \mathrm{db}$
(D) None of the above

35 Effectiveness of teaching depends on $\qquad$
(A) Handw riting of Teacher
(B) Speaking ability of Teacher
(C) Qualification of the Teacher
(D) Subject Understanding of the Teacher

36 Verbal Guidance is least effective in the learning of $\qquad$
(A) Aptitudes
(B) Skills
(C) Attitudes
(D) Relationship

37 The participation of students $w$ ill be maximum if $\qquad$ method is used for teaching.
(A) Text Books
(B) Discussion Method
(C) Conference Method
(D) Lectures

38 The primary responsibility of the teacher's adjustment lies with
(A) The Students
(B) The Principal
(C) The Community
(D) The Teacher himself
39. The First Kindergarten w as started by
(A) William James
(B) A D Clinton
(C) Freidrich Forebel
(D) J H Hills
40. In follow ing questions, number series is given. One of the numbers in each series is wrong. After searching w rong number find the correct number in its place.

510, 254, 126, 64, 30, 14, 6
(A) 252
(B) 62
(C) 130
(D) 9
41. Which reasoning determines $w$ hether the truth of a conclusion can be determined for that rule, based solely on the truth of the premises?
(A) Deductive
(B) Inductive
(C) Abductive
(D) All
42. Insert the missing number or letter from amo ng the given alternatives.

(A) 140
(B) 280
(C) 875
(D) 925
43. In the follow ing question assuming the given state ments to be true, find out which of the tw o assumptions I and II given below them is/are definitely true give answ er as.
(A) Only assumption I is implicit
(B) Only assumption II is implicit
(C) Ether I or II is implicit
(D) Neither I nor II is implicit
(E) Both I and II are implicit

Statement: The State government has decided to appoint four thousand primary school teachers during the next financialyear.

## Assumptions:

I. There are enough schools in the state to accommodate four thousand additional primary school teachers.
II. The eligible candidates may not be interested to apply as the government may not finally appoint such a large nu mber of primary school teachers.
44. What is the latest write-once optical storage media?
(A) Digital paper
(B) Magneto-optical disk
(C) WORM disk
(D) CD-ROM disk
45. Which of the follow ing identifies a specific w eb page and its computer on the Web?
(A) Web site
(B) Web site address
(C) URL
(D) Domain Name

Direction (46-47) In the follow ing figure, rectangle, square, circle and triangle represents the regions of wheat gram, maize and rice cultivation respectively. On the basis of the figure, answer the follow ing questions.

46. Which of the area is cultivated for wheat and maize only?
(A) 8
(B) 6
(C) 5
(D) 4
47. Which of the area is cultivated for maize only?
(A) 10
(B) 2
(C) 3
(D) 4
48. Pointing to a photograph. Bajpai said, "He is the son of the only daughter of the father of my brother." How Bajpai is related to the man in the photograph?
(A) Nephew
(B) Brother
(C) Father
(D) Maternal Uncle
49. Light Year is a unit of:
(A) Intensity of light
(B) Distance
(C) Time
(D) Panetary motion
50. Tsunamis are huge sea $w$ aves caused by:
(A) Earthquakes
(B) Volcanoes
(C) Winds
(D) Icebergs

## PAPER-II

1. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Planation Surface)

A. Panplane
B. Pediplane
C. Peniplain
D. Primarumpf

Code:
(A) A-2, B-3, C-4, D-1
(B) A-2, B-3, C-1, D-4
(C) A-3, B-4, C-1, D-2
(D) A-3, B-1, C-4, D-2
2. Match List Iw ith List II and select the correct answer using the code given below :

List I(Volcanic Eruption)
A. Effusive eruption
B. Explosive volcano
C. Glow ing cloud
D. Composite cone

Code:
(A) A-4, B-1, C-2, D-3
(B) A-4, B-1, C-3, D-2
(C) A-3, B-4, C-1, D-2
(D) $\mathrm{A}-3, \mathrm{~B}-4, \mathrm{C}-2, \mathrm{D}-1$

1. Mount Pinatubo
2. Martinique (Caribbean slands)
3. M. Orizba (Mexico)
4. Kilauea - (Haw aii)
5. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Classification of Valleys) List II (Character istics of Valleys)

A. Consequent Valley
B. Subsequence Valley
C. Insequent Valley
D. Obsequent Valley

1. Draining in a direction opposite to that of the original Consequence valleys.
2. Show ing no apparent adjustment to structural control.
3. Course shifted from the original consequent ones to more readily erosble rocks.
4. Course deter mined by the initial slope of the land.

## Code:

(A) A-4, B-3, C-2, D-1
(B) A-4, B-3, C-1, D-2
(C) A-2, B-1, C-4, D-3
(D) A-2, B-4, C-1, D-3
4. Examine the following statements and select the correct answer using the code given below:

1. The cementation, compaction, and hardening of sedimentary rocks is know n as lith ification.
2. Most of the sedimentary rocks are derined from existing rocks of from organic materials.
3. Evaporites are inorganic in character.

## Code:

(A) 1 and 2 are correct
(B) 1 and 3 are correct
(C) 2 and 3 are correct
(D) 1, 2 and 3 are correct
5. Consider the follow ing statements:

1. Canyon is an extreme type of V-shaped valley w ith very steep sides and no valley floor.
2. Grand Canyon is associated $w$ th the Colorado river.
3. The Hoover Damhas been constructed across the Coloradoriver.

Which of the statement(s) given above are correct?
Code:
(A) 1 and 2 are correct
(B) 2 and 3 are correct
(C) 1 and 3 are correct
(D) 1, 2 and 3 are correct
6. The 'Aurora Borealis' occurs in the:
(A) Exosphere
(B) lonosphere
(C) Ozonosphere
(D) Stratosphere
7. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Name)

A. Subpolar low pressure cells
B. Subtropical high pressure cells
C. Equatorial low pressure cells
D. Polar high pressure cells

## List II (Location)

1. $20^{\circ}$ to $35^{\circ} \mathrm{N}$ and S
2. $90^{\circ} \mathrm{N}, 90^{\circ} \mathrm{S}$
3. $60^{\circ} \mathrm{N}, 60^{\circ} \mathrm{S}$
4. $10^{\circ} \mathrm{N}$ to $10^{\circ} \mathrm{S}$

## Code:

(A) A-2, B-3, C-4, D-1
(B) A-3, B-1, C-4, D-2
(D) A-3, B-1, C-2, D-4
(D) A-2, B-3, C-1, D-4
8. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Tropical)

A. Hurricanes/typhoons
B. Tropical storms
C. Tropical depressions
D. Tropical disturbance

## List II (Characteristic Feature)

1. Closed isobars
2. Circular isobars
3. Low winds, Patches of clouds
4. Gale force, light rainfall

Code:
(A) A-2, B-1, C-4, D-3
(B) A-2, B-1, C-3, D-4
(C) A-4, B-3, C-2, D-1
(D) A-4, B-2, C-3, D-1
9. 'Hails' generally form in:
(A) Oumulus clouds
(B) Oumulonimbus clouds
(C) Stratus clouds
(D) Cirrostratus clouds
10. The typical area of sal forest in the Indian peninsular upland occurs
(A) On the Western Ghats
(B) Betw een the Tapti and the Narmada
(C) To the north-east of the Godavari
(D) On the Malw a plateau
11. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Ocean Trench)

A. Aldrich/Tonga
B. Challenger

## List II (Ocean)

1. North Pacific
2. South Pacific
C. Narer/Puerto Rico
D. Romanche

## Code:

(A) A-2, B-1, C-3, D-4
(B) A-2, B-1, C-4, D-3
(C) A-1, B-3, C-2, D-4
(D) A-4, B-2, C-3, D-1
3. South Atlantic
4. North Atlantic

The accumulation of w ater in the western part of the Atlantic Ocean by the Equatorial current is compensated by:
(A) High rate of evaporation
(B) Counter Equatorial Current
(C) Sinking of the surface current
(D) Upw elling of w ater in the eastern part
13. Corals are susceptible to:

1. Coral beaching
2. Exposure to fresh w ater
3. Osmotic shock
4. Turbidity w ater

## Code:

(A) 1, 2 and 3 are correct
(B) 1, 3 and 4 are correct
(C) 2,3 and 4 are correct
(D) 1, 2, 3 and 4 are correct
14. Which one of the follow ing is not correctly matched?
(A) Aridisols - Desert soils
(B) Alfisols - Hu mid temperate soils
(C) Mollisols - Taiga soils
(D) Oxisols - Tropical soils
15. Examine the following statements and select the correct answer using the code given below: 1. A large, stable terrestrial ecosystem characterized by specific plants and animals is known as a biome
2. A boundary transition zone between adjoining ecosystems is know n as a ecotone.
3. Small plants without $w$ oody stems above the ground are know n as herbs.
4. Smaller woody plants, branching stems at the ground are know n as shrubs.

## Code:

(A) 1,2 and 3 are correct
(B) 1, 2 and 3 are correct
(C) 1, 3 and 4 are correct
(D) 1, 2, 3 and 4 are correct

## Instruction for Q. 16 to 23

The follow ing items consist of two statements, one labelled as 'Assertion (A)' and the other as 'Reason (R)'.
You are to examine these two statements carefully and select the correct answer to these items using the code given below.
16. (A) Pwaves (primary waves) travel faster in the earth than that of $S$ waves (secondary waves).
( R ) Both P and S waves can be transmitted through the liquid.
Code:
(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
17. (A) The Gutenberg Discontinuity divides the outer core from the low er mantle.
$(\mathrm{R})$ The seismic waves refract at this depth.

## Code:

(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
18. (A) The number of tributaries decreases dow nstream in a mathe matical progression
(R) The stream channel becomes progressively w ider dow nstream.

Code:
(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
19. (A) Descending air is incapable of giving rains
(R) Adiabatic w arming reduces relative humidity

Code:
(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
20. (A) The polar jet stream is located at the tropopause along the polar front.
(R) It meanders betw een $30^{\circ}$ and $70^{\circ} \mathrm{N}$. latitude.

## Code:

(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
21. (A) The make up of soil according to the proportion of sand silt and clay is know n as soil texture.
(R) The way in which sand, silt, clay and hu mus bond together is known as soil structure.

## Code:

(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
22. (A) The zone of the ocean in which salinity increases rapidly $w$ ith depth is know $n$ as halocline.
(R) The salinity of the ocean increases up to the bottom of the ocean.

## Codes:

(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) $A$ is false $R$ is true
23. (A) The Gnomonic projection is ideal for the airways.
(R) The scale in the Gnomonic projection is exaggerated aw ay from the centre.

Codes:
(A) Both $A$ and $R$ are true and $R$ is the correct explanation of $A$
(B) Both $A$ and $R$ are true but $R$ is not the correct explanation of $A$
(C) $A$ is true $R$ is false
(D) A is false R is true
24. Examine the follow ing statements and select the correct answer using the code given below:

1. Cimograph w as introduced by Griffith Taylor.
2. A climograph show s the inter-relation-ship betw een relative humidity and temperature
3. A climograph is a tw elve sided diagram

## Code:

(A) 1 and 2 are correct
(B) 2 and 3 are correct
(C) 1 and 3 are correct
(D) 1, 2 and 3 are correct
25. Which one of the follow ing statements is not correct?
(A) Bar diagrams may be vertical or horizontal
(B) Bar diagrams may be simple or compound
(C) Labels of vertical bars can be read more easily
(D) Simple bars have no subdivisions
26. Examine the following statements and select the correct answer using the code given below :

1. The network of latitude and longitude is know nas graticule.
2. If you prepare a globe on a scale of one inch to one mile, the radius of the earth w ill be 110 yards.
3. Globe is the true representation of the earth.
4. Gbbe is the most useful in the field

Code:
(A) 1, 2 and 3 are correct
(B) 1, 3 and 4 are correct
(C) 2, 3 and 4 are correct
(D) 1, 2, 3 and 4 are correct
27. The circumference of the earth $w$ as measured accurately by:
(A) Eatosthenes
(B) Herodotus
(C) Polemy
(D) Strabo
28. The apparatus 'Astrolab' was invented by:
(A) Anaxaminder
(B) Eratosthenes
(C) Hipparchus
(D) Polemy
29. Who out of the follow ing was made as an ambassador to China by Mohammad bin-Tughlq?
(A) Al-Beruni
(B) Al-Idrisi
(C) Ibn-Battuta
(D) Ibn-Khaldun
30. The idea to dig the Panama Canal was given by:
(A) Humboldt
(B) Kant
(C) Ritter
(D) Semple
31. The concept of Landschaft $w$ as developed in:
(A) Britain
(B) France
(C) Ger many
(D) U.S.A
32. Match List Iw ith List II and select the correct answer using the code given below :

## List I (Natural Vegetation)

A. Epiphytes
B. Acacia
C. Baobab
D. Juniper

## List II (Region)

1. Mediterranean
2. Equatorial
3. Sahara
4. Savanna

Code:
(A) A-2, B-3, C-4, D-1
(B) A-2, B-3, C-1, D-4
(C) A-2, B-4, C-3, D-1
(D) A-2, B-4, C-1, D-3
33. Match List Iw ith List II and select the correct answer using the code given below :

## List I (City)

A. Chelyabinsk

## List II (Industrial Region)

1. Central Industrial region
B. Irkutsk
2. Baikal region
C. Mbscow
3. Volga region
D. Samara
4. Ural region

## Code:

(A) A-3, B-4, C-2, D-1
(B) $A-4, B-2, C-3, D-1$
(C) A-4, B-2, C-1, D-3
(D) A-4, B-1, C-3, D-2
34. Jerusale $m$ is a holy place for the:
(A) Jew s
(B) Christians and Jews
(C) Jews and Muslims
(D) Christians, Jews and Muslims
35. Which one of the follow ing is more sparsely populated?
(A) Arctic tundra
(B) Arabian Peninsula
(C) Deserts of Central Asia
(D) Pateau of Tibet
36. The orig in of Brunei population is mainly of:
(A) Chinese
(B) Indonesians
(C) Malaya
(D) Flipino
37. Match List Iwith List II and select the correct answer using the code given below :

## List 1 (Mineral)

A. Lead and Zinc
B. Copper
C. Iron ore

## List II(Location)

1. M. Isa
2. Broken Hill
3. Tas mania
D. Tin

Code:
(A) A-2, B-1, C-4, D-3
(B) A-2, B-1, C-3, D-4
(C) $A-4, B-3, C-2, D-1$
(D) A-4, B-3, C-1, D-2
38. The thickest coal-seam in India is found in:
(A) Bokaro coalfield
(B) Jharia coalfield
(C) Raniganj coalfield
(D) Singrauli coalfield
39. Which one of the follow ing statements is not correct?
(A) The Khadar land consists of new alluvium
(B) The Khadar is called as bet in Punjab
(C) The Khadar has the fossils of mammals
(D) The Khadar alluvium is of dark colour.
40. The highest area under tobacco is in the state of:
(A) Andhra Pradesh
(B) Gujarat
(C) Karnataka
(D) Utar Pradesh
41. Examine the following statements and select the correct answer using the code given below:

1. Boggy soils are found in the Ganga-Khadar and Assam Valley
2. Older alluviums are found in Punjab
3. Serozem (saline) soils are found in Rajasthan.
4. Reguar soils are found in Maharashtra and Gujarat
(A) 1,2
(B) 1, 2, 3
(C) 2, 3
(D) 1, 2, 3, 4
5. Examine the follow ing statements and select the correct answer using the code given below:
6. Rhand Dam is on tributary of the Son river
7. Hirakud dam is across the Mahanadi River
8. Chambal Project is a joint venture of the Rajasthan and Madhya Pradesh states.
9. Kosi is know n as the 'Sorrow of Bihar'.

Code:
(A) 1, 2 and 3 are correct
(B) 1, 2 and 4 are correct
(C) 1, 3 and 4 are correct
(D) 1, 2, 3 and 4 are correct
43. Which one of the follow ing is not correctly matched?
(A) Kundankulam

- Kerala
(B) Kalpakkam
- Tamil Nadu
(C) Kakrapara
- Orissa
(D) Kaiga
- Karnataka

44. Which one of the follow ing is the highest peak in the Eastern Himalayas?
(A) Abor Hills (Arunachal Pradesh)
(B) Brail Range (Cachar Hills)
(C) Dapha Bum (Mishmi Hils)
(D) Sar mati (Naga Hills)
45. India's major partners of foreign trade are:
(A) Anglo-America (USA and Canada)
(B) Developing countries
(C) East European countries
(D) West European countries
46. Which one of the follow ing statements is not correct?
(A) Ennore port lies to the south of Chennai
(B) Ennore port has been developed to reduce pressure on Chennai port
(C) Vishakhapatnam is the deepest land locked port of India
(D) Pradip handles mainly iron ore and coal

## Pas sage

Astrologers habitually prone to goof-ups now have an excuse for why their predictions have been going haywire - the emergence of new er and planets that have caused their calculations to go awry. For the international team of astronomers who recently discovered eight new planets, the arrivals are, however, a cause for excitement Indeed, even as the rest of the world continues to be consumed by a morbid passion for shiny new war machines, deadly chemicals and sinister war tactics, astronomers have been doggedly searching the heavens for more heavenly bodies in the belief that the search will take use closer to a more exalted goal-that of knowing the truth about us and the universe.
47. As per the passage, what is the excuse the astrologers are likely to give for their calculations going wrong?
(A) The discover of new planets unknow $n$ earlier $w$ as not taken into account of in their calculations
(B) The truth about the universe is still not know $n$ to the astrologers
(C) Astrologesr's instruments and calculation methodo logy w as imperfect earlier
(D) None of these
48. What does the term 'morbid passion' mean here?
(A) Death threat
(B) Gloomy Fixation
(C) Fearful insight
(D) None of the above
49. Which of the following planets is named as "Terra"?
(A) Mercury
(B) Venus
(C) Puto
(D) Earth

## Pas sage

These are some of the important issues that deserve more attention than they now get and need serious detailed study to evolve reasonably satisfactory, fair and workable solutions. The tendency to equate the public sector with the government is w rong. The public state is much wider than government departments and includes cooperatives, universities, public trusts and a variety of non-government organizations, w ith government control, and giving nongovernmental public institutions the space and resources to play a larger, more effective role in research, is therefore an issue of direct relevance in restructuring the public system.
50. Why does the author consider the tendency to equate public sector with the government as wrong?
(A) Public sector does not have the authority of the sovereign
(B) Its a mbit of roles and functions is much wider
(C) It does not have the autono my w hich government departments have
(D) All of the above

## PAPER - III

1. Which of the following factors are responsible for the rapid grow th of sugar production in south India as compared to north India?
I. Higher per acre field of sugarcane
II. Higher sucrose content of securance
III. Lower labour cost
IV. Longer crushing period
(A) Iand II
(B) I, II and III
(C) I, III, and IV
(D) I, II and IV
2. The principal copper deposits of India lie in w hich of thefollow ing places?
(A) Hazaribag and Singbhum of Bihar
(B) Khetri and Daribo areas of Rajasthan
(C) Anantapur in Andhra Pradesh
(D) Siw aliks in Uttar Pradesh and In Karnataka
3. Which of the following are true regarding Jhum cultivation in India?
I. It is largely practiced in Assam
II. It is referred to ass 'slash and burn' technique
III. In it, the fertility is exhausted in a few years
(A) I, II and III
(B) II and III
(C) I and II
(D) I and III
4. Which of the following are true with respect to the Indian Peninsular Plate au?
I. The southern plateau block is formed mainly of granite and gneiss
II. The Deccan lava plateau is an elevated tableland consisting of horizontally arranged lava sheets
III. The Malw a plateau dominates the Vindhyam scraps, forming the northern flank of the plateau

N . The trough of the Narmada and Tapi are interposed betw een the Vindhyan and the Satpura ranges
(A) I, and III
(B) Iand II
(C) I, II, III and IV
(D) I, III and IV
5. Which of the following groups accounts for over 90 per cent of India's annual coal production?
(A) Bihar, Orissa and West Bengal
(B) Bihar, Orissa and Madhya Pradesh
(C) Orissa, Madhya Pradesh and Tamil Nadu
(D) West Bengal, Madhya Pradesh and Tamil Nadu
6. The scarcity or crop failure of which of the following can cause a serious edible oil crisis in India?
(A) Coconut
(B) Groundnut
(C) Linseed
(D) Mustard
7. Which of the following factors are responsible for present crisis in the jute industry in hdia?
I. The decline in overseas market
II. In adequately of raw jute
III. Stiff competition from synthetic packing materials

Select the correct answer from the codes given below
(A) Iand II
(B) I, and II and III
(C) I and III
(D) II and III
8. Which racial group does the tribal of Andaman Islands resemb le?
(A) Negrito
(B) Mbngoloid
(C) Alpinoid
(D) Nordic
9. The largest estuary in India is at the mouth of river-
(A) Hooghly
(B) Bhagirathi
(C) Godavar
(D) Krishna
10. The West to East extension of the Himalayas is from-
(A) Indus gorge to Dihang gorge
(B) K-2 to Chomolhari
(C) Nanga Parbat to Numcha Barwa
(D) Rakaposhi to Lohit river
11. Which generalization about geography of Latin America is accurate?
(A) Geographic features prevented foreign imperia lis $m$
(B) Harsh climatic conditions have prevented the develop ment of large-scale agriculture
(C) The lack of geographic barriers facilitated the development of transportation and communication systems
(D) Great variations in latitude and landforms resulted in a diversity of climates
12. An effect of a mountainous topography on Inca and Chinese civilizations was the development of
(A) Industrialization
(B) single-crop economy
(C) Desalinization projects
(D) Terrace farming
13. Which of the following cities are situated on the banks of river 'Tigris'?
(A) Sharjah
(B) Baghdad
(C) Dubai
(D) London
14. Which of the following places are connected by the Adam's bridge?
(A) Israel and Jerusalem
(B) Amman and Damascus
(C) Persian Gulf and Gulf of Oman
(D) Dhanushkodi and Talaimannar
15. Which one of the follow ing rivers flow near Paris?
(A) Rhine
(B) Volga
(C) Danube
(D) Thames
16. In India, which of the follow ing are the Southernmost hills?
(A) Anaimalai hills
(B) Carda mom hills
(C) Nilgiri hills
(D) Javacli hills
17. Which one of the follow ing areas of India does not come under the zone of high seismic intensity?
(A) Utarakhand
(B) Karnataka Plateau
(C) Kachchh
(D) Himachal Pradesh
18. Betw een which ranges does the Kashmir valley in the Himalayas lie?
(A) Siw alik and Pir Panjal
(B) Pirpanjal and Dhauladhar
(C) Zanskar and Pir Panjal
(D) Dhauladhr and Zanskar
19. In which one of the follow ing states of India is the Pamaynagtse Monastery situated?
(A) Nagaland
(B) Hmachal Pradesh
(C) Skikkim
(D) Arunachal Pradesh
20. Which one of the follow ing is not correctly matched?
(A) NH2 - Delhi - Kolkata
(B) NH 4 - Chennai - Thane
(C) NH 3 - Agra - Mumbai
(D) Nh 9 - Delhi - Mumbai
21. The largest glaciers are
(A) Mbuntain glaciers
(B) Alpine glaciers
(C) Continental glaciers
(D) Pedmont glaciers
22. The Har mattan is
(A) Cool, extremely dry wind that forms over the Sahara and blows westward or southwestw ard to the African coast
(B) Wind that blows during the dry seas on from December to February
(C) Tertiary wind that carry great quantities of fine dust from the Sahara
(D) All of the above
23. The largest fish exporting region in the world is
(A) The north-east Atlantic region
(B) The north-east pacific region
(C) The north-w est pacific region
(D) The south-east Asian region
24. The hot, dry wind on the east or leew ard side of the Rocky mountains (North America) is called
(A) The Chinook
(B) The Sirocco
(C) The Harmattan
(D) The Loo
25. The gulf that separates Finland and Sw eden in Europe is
(A) The Gulf of Bothnia
(B) The Gulf of Lions
(C) The Gulf of Genoa
(D) The Gulf of Venice
26. The important mountains of Europe include
(A) Andes, Alps, Pyrenees
(B) Alps, Carpathians, Pyrenees, Apennines
(C) Alps, Himalay as, Rock mountains
(D) None of the above
27. The ionosphere contains ionized air that protects the earth from
(A) The ultraviolet rays of the sun
(B) The infrared rays of the sun
(C) The falling meteorites
(D) None of the above
28. The highest mountain peak of Oceania is
(A) M. Victoria, Papua New Guinea
(B) M. Kosciusko, Australia
(C) Mt. Cook, South Island (New Zealand)
(D) Puncak Jaya, Indonesia.
29. The land-sea distribution or the positions of the wald's continents and major oceans influences
(A) The major pressure belts that develop from the general circulation of the at mosphere
(B) The development of the mid-latitude cyclonic depressions, at the convergence zone between polar and subtropical air masses
(C) Both (a) and (b)
(D) None of the above
30. The longest river in the Commo $n$ wealth of independent states is the
(A) Irtysh river
(B) Ob river
(C) Yenisei river
(D) Volga river
31. The main vegetation of the steppe type climatic regions is
(A) Evergreen forests
(B) Evergreen deciduous forests
(C) Large grasslands
(D) Coniferous forests
32. The minerals of sulphide group are
(A) Cinnabar
(B) Pyrite
(C) Galena
(D) All of the above
33. The major crops found in Sudan are
(A) Rice, barley, dananas, cocoa
(B) Maize, cotton bananas, groundnut
(C) Bajra, oats, tobacco
(D) Wool, wine, jute
34. The main objective of multi-purpose river projects are
(A) Extension of irrigation facilities by constructing dams to store surplus water during the rainy season, for release in summer
(B) Pow er generation by constructing hydro power stations
(C) Food controls and making rivers navigable
(D) All of the above
35. The Mistral is
(A) Very cold $w$ ind, which blow s dow $n$ from the platea $u$ of central France
(B) $\mathrm{S}_{\mathrm{w}} \mathrm{ift}$, dry, cold northerly w ind that blows down from the w estern Alps and the plateau of Southern France and out over the Mediterranean
(C) Wind that blow s for 100 days a year and may cause extensive frost damage to plants
(D) All of the above
36. The year $\qquad$ is called a Great Divide in the de mographic history of India.
(A) 1901
(B) 1921
(C) 1941
(D) 1951
37. The modern theory of plate tectonics states
(A) The creation of oceanic crust and the drifting of continents
(B) The convention currents within the earth's mantle cause the creation of new oceanic crust at the mid oceanic ridges
(C) That the oceanic crust is destroyed at areas where this crust type becomes subducted under the lighter continental crust
(D) All of the above
38. Which of the following is aw arm current?
(A) Benguela current
(B) Labrador current
(C) Kurosiwo current
(D) South Pacific current
39. The ministry of Water Resources lays dow n policies and programs for the development and regulation of the country's w ater resources. It covers
(A) Sectorial planning, coordination and policy guidelines
(B) Technical examination and techno-appraisal of project providing central assistance to specific projects
(C) Facilitation of external assistance in resolution of interstate water disputes, policy formulation planning and development of groundw ater resources
(D) All of the above
40. The main crops of kharif are
(A) Rice, jow ar, baja
(B) Ragi, maize
(C) Cotton, jute
(D) All of the above
41. The longest day (shortest night) in the southern hemisphere is
(A) June 21
(B) Dece mber 22
(C) July 21
(D) Nove mber 22
42. The longest era of the classification of the history of earth is
(A) Cainozoic era
(B) Pe-Cambrian era
(C) Palae ozic era
(D) Mesozoic era
43. The oldest rocks found in ocean basin are $\qquad$ than the oldest continental rocks.
(A) Older
(B) Younger
(C) Larger
(D) Smaller
44. The process of weathering results into
(A) The complete loss of particular atoms or the compounds from the weathered surface
(B) The addition of specific atoms or compounds to the w eathered surface
(C) A breakdow n of one mass in to tw o or more masses, w th no chemical change in the mineral or rock
(D) All of the above
45. The pyramidal peaks that form when several cirques chisel a mountain form three more sides are called
(A) Horns
(B) Cirques
(C) Aretes
(D) Medial moraines
46. The relative abundance of dissolved salts in seaw ater in descending order is as follows
(A) Chlorine, sodium, sulphate, mag nesium, calcium, potassium
(B) Sodium, chlorine, magnesium, potassium, sulphate, calcium
(C) Chlorine, magnesium, calcium, sodium, potassium, sulphate
(D) Chlorine, sodium, magnesium, calcium, potassium, sulphate
47. The process that explains the recent changes in the height of sea level in coastal areas of eastern and northern Canada and Scandinavia is
(A) Isostasy
(B) Continental drift
(C) Pate tectonics
(D) None of the above
48. The river Jordan drains into the
(A) Dead Sea
(B) Adriatic Garden
(C) Gulf of Suez
(D) Resaca Garden
49. The region of three W's that is wheat, wool and wine if
(A) Mediterranean climatic regions
(B) China type climatic regions
(C) Steppe type climatic regions
(D) Equatorial regions
50. The Rhine River of northern Europe empties in to
(A) The Baltic Sea
(B) The North Sea
(C) The Bay of Biscay
(D) The Adriatic Sea
51. The Paithan (Jayakw adi) Hydro-electric project with the help of Japan, is on the river
(A) Ganga
(B) Cauvery
(B) Nar mda
(D) Godavari
52. The percentage of irrigated land in India is about
(A) 4.5
(B) 65
(C) 35
(D) 25
53. The southern most point of peninsular India, that is, Kanyakumari, is
(A) North of Tropic of Cancer
(B) South of the Equator
(C) South of the Capricorn
(D) North of the Equator
54. The pass located at the southern end of the Nilg iri Hills in south India is called
(A) The Palghat gap
(B) The Bhorghat pass
(C) The Thalgat pass
(D) The Bolan pass
55. Which among the follow ing is/are the major factorfactors responsible for the monsoon type of climate in India?

## l. Location

II. Ther mal contrast
III. Upper air circulation
Iv. Inter-tropical convergence zone
(A) I
(B) II III
(C) II III and IV
(D) I, II, III and IV
56. The India's highest annual rainfall is reported at
(A) Namchi, Sikkim
(B) Churu, Rajasthan
(C) Maw syrram, Meghalaya
(D) Chamba, Himachal Pradesh
57. Which statement best explains $w$ hy most of the population of the people's Republic of China live in the Eastern third of the nation?
(A) Best agricultural 1 and is in the East
(B) Largest forests are in the East
(C) Best fishing areas are off the eastern coast
(D) Largest oil deposits are in the East
58. Which statement best describes an effect hat geography has on Japan?
(A) Japan's smooth coastline has prevented the development of a fishing industry
(B) Japan's large plains have made wheat grow ing a primary industry
(C) The lack of important natural resources has led Japan to depend on trade w ith other nations
(D) The location of Japan has encouraged great ethnic diversity w ithin the nation
59. A topographical map w ould most likely be used to
(A) Identify the major agricultural products of Egypt
(B) Determine the population of Beijing, China
(C) Estimate the elevation of Bangkok, Thailand
(D) Count the number of provinces in India
60. Which one of the follow ing is a cold current?
(A) Gulf stream
(B) Kuroshio
(C) Benguela
(D) Brazil
61. The Pacific Ocean w as so named by
(A) Bartholomew Diaz
(B) Magellan
(C) Vasco da Gama
(D) Columbus
62. Rhine valley in France is know $n$ for mineral deposits of
(A) Bauxite
(B) Nckel
(C) Bickel
(D) Zinc
63. The Homolographic projection has the correct representation of
(A) Shape
(B) Area
(C) Baring
(D) Distance
64. The latitudinal differences in pressure delineate a number of major pressure zones, which correspondwith
(A) Zones of climate
(B) Zones of oceans
(C) Zones of land
(D) Zones of cyclonic depressions
65. Which is an accurate statement about Japan's natural resources?
(A) Japan has extensively used the seas for fishing
(B) Large reserves of petroleum are located in the northern part of Japan
(C) Japan has large fertile plains suitable for grow ing grain
(D) Large coal and iron-ore deposits are located in the mounta in region
66. Without $\qquad$ the equator would be much hotter than it is shile the poles would be much cooler.
(A) Latitudinal redistribution of heat
(B) Oycle of air circulation
(C) Global w ind pattern
(D) All are similar terms
67. Who $w$ as the first man to reach the South Pole?
(A) Robert Walpole
(B) Amundson
(C) Robert Peary
(D) None of these
68. The iron and steel industries of which of the folow ing countries are almost fully dependent on imported raw materials?
(A) Britain
(B) Japan
(C) Poland
(D) Ger many
69. The ionosphere includes
(A) Mesosphere
(B) Ther mosphere
(C) Ther mosphere and exosphere
(D) Ther mosphere and Mesosphere
70. The Yarlung Zangbo river, in India, is know n as
(A) Ganga
(B) Indus
(C) Brah maputra
(D) Mahanadi
71. The only zone in the country that produces gold is also rich in iron is
(A) North-eastern zone
(B) North-w estern zone
(C) Southern zone
(D) None of the above
72. The percentage of earth surface covered by India is
(A) 2.4
(B) 3.4
(C) 4.4
(D) 5.4
73. The present forest area of India, according to satellite data, is
(A) Increasing
(B) Decreasing
(C) Static
(D) Decreasing in open forest area but increasing as pr the satellite data
74. The refineries at Mathura, Digboi and Panipat are set up by
(A) Indian Oil Corporation Led.
(B) Hindustan Petroleum Corporation Ltd.
(C) Bharat Petroleum Corporation Ltd.
(D) Orude Distillation unit of Madras Refineries Ltd.
75. What is the predominant type of Indian agriculture?
(A) Commercial agriculture
(B) Extensive agriculture
(C) Pantation agriculture
(D) Subsistence agriculture

## ANSWER KEY

## PAPER-1

| Question | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Answer | B | C | A | C | D | A | B | D | A | C | A | B | A | C | D | A | C | D | B | D |
| Question | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Answer | B | D | C | A | D | A | B | B | A | B | C | D | D | C | D | D | B | D | C | B |
| Question | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |  |  |  |  |  |  |  |  |  |  |
| Answer | A | D | A | D | D | D | C | D | B | A |  |  |  |  |  |  |  |  |  |  |

PAPER - II

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Answer | B | A | A | D | D | B | B | A | B | D | B | B | B | C | D | C | B | B | A | B |
| Question | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Answer | B | C | B | D | C | A | A | C | C | A | C | A | C | D | A | C | A | D | D | A |
| Question | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |  |  |  |  |  |  |  |  |  |  |
| Answer | D | D | C | C | D | A | A | C | D | B |  |  |  |  |  |  |  |  |  |  |

PAPER - III

| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Answer | D | A | A | C | A | B | A | A | A | C | D | D | B | D | A | B | B | C | C | D |
| Question | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Answer | C | D | A | A | A | B | C | D | C | D | C | D | B | D | D | B | D | C | D | D |
| Question | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Answer | B | B | B | D | A | A | A | A | A | B | D | C | D | A | D | A | A | C | C | C |
| Question | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 |  |  |  |  |  |
| Answer | B | A | B | A | A | D | B | B | C | C | C | A | B | A | D |  |  |  |  |  |

## HINTS AND SOLUTIONS

## PAPER-1

1. (B) An effective and efficient communication system requires managerial proficiency in delivering and receiving messages. A manager must discover various barriers to
communication analyze the reasons for their occurrence and take preventive steps to avoid those barriers. Thus, the primary responsibility of a manager is to develop and maintain an effective communication system in the organization.
2. (C) non verbal communication is communication of feelings, emotions, attitudes, and thoughts through body movements / gestures / eye contact, etc.
3. (A) Phonetics is a part of the English language which helps us to understand sounds of various alphabets. How an alphabet should sound is taught to us $w$ ith the help of Phonetics.
4.(C) $\%$ increase $=\frac{0.25 \text { crore }}{1 \text { crore }} \times 100$

$$
=25 \%
$$

5.(D) for company A

$$
\begin{aligned}
& 1+1.25+1.5+1.75+1.75+1.75+2 \\
& =11 \text { crore }
\end{aligned}
$$

6.(A) $(2.5-1)$ crores $=1.5 \times 10000000$

$$
=15000000
$$

7.(B) Total production of $B$
$=2.5+2.5+3+2.75+2.25+2.25+2.5$
$=17.75$
Average production $=\frac{17.75}{7}=2.55$
8.(D) In year 2004
9.(A) If sampled n reconnaissance mode, data limitation requires use of maximums. Results are screening level- not definitive.
10.(C)If estimating average concentrations is planned Exposure units must be defined Must be considered in developing DQOs for project, or results may not be accepted.

Sufficient samples are required 8-10 samples when contaminant concentrations vary within a narrow range 10-15 sample when concentrations are less predictable Calculate 90th Upper Confidence Limit (UCL)
11.(A) Scatter plots Can be used to evaluate if constituents in subsurface are correlated and have the same or different sources.
12.(B) Ratio plots Can be used to evaluate if ratios of constituents in subsurface are similar or different from those in indoor/outdoor air, potentially informing decisions about confounding ambient sources.
13.(A) Qualitative data collection techniques were used as the primary research methods for this study. Participant and direct observation plus note taking were the most important techniques used.
14.(C) qualitative data collection techniques $w$ ere used as primary research methods. How ever in order to organize, classify and analyze the gathered information, we used graphs and statistics as a w ay to measure the students' level of improvement through the use of reading strategies
15.(D) Production was at very low level.
16.(A) Ethnic diversity of the people $w$ as not appropriately realized by the Central Government.
17.(C) Central economic planning found to be difficult because autonomy was given to the States in certain matters
18.(D) Because that time no common language emerged.
19.(B) "The Indianisation of the Indian Civil Service", can be cited as an exercise in democratic practice in India before Independence
20.(D) The information to be collected in survey method are related to present position, aims of the research \&the attainment of aim of research
21. (B) Research is done for solving a business problem
22.(D) A research problem is feasible only when it is researchable, it has some utility, and it is new.
23. (C) One of the essential characteristics of research is usability.
24.(A)A parliamentary system is a system of democratic government in which the ministers of the Executive Branch derive their legitimacy from and are accountable to a Legislature or parliament; the Executive and Legislative branches are interconnected. t is a political system in which the supreme pow er lies in a body of citizens who can elect people to represent them.
25.(D) The Cabinet approved the proposal for enhancing reservation for women in Panchayats on from the present 33 per cent to 50 per cent with the provision being applicable to all seats filled through direct election, office of chairpersons and of offices reserved for SC/ST.
26.(A) IVRI is situated in Izat Nagar.

IAT is situated in Pune
IISc is situated in Banglore
NIEPA is situated in De lhi.
27.(B) Dr. P B Gajendragadkar was chairman of the UGC committee 1969 appointed for administrative legislation of the universities.
28.(B) UGC has launched career oriented program in 1994-95.
29.(A)The prime minister of India is appointed from the leading Party in Lok Sabha.
30.(B) The study of interrelations betw een Organism and their environment is called ecology.
31.(C)The term ICT is now also used to refer to the convergence of audio-visual and telephone netw orks with computer netw orks through a single cabling or link system.
32.(D) Jim Corbett National Parkw as the first National Park established in India.
33.(D)Fossil fuels are fuels made by natural processes such as anaerobic decomposition of buried dead organisms.

Ex. Oil, Natural gas, coal etc.
34.(C) Noise in excess of $80-100 \mathrm{DB}$ is called noise pollution.
35.(D) Effectiveness of teaching depends on Subject Understanding of the Teacher
36.(D) Verbal Guidance is least effective in the learning of Relationship.
37. (B) The participation of students will be maximum if Discussion Method is used for teaching.
38.(D) The primary responsibility of the teacher's adjustment lies w ith The Teacher himself
39.(C)The First Kindergarten w as started by Freidrich Forebel
40.(B)


30,64 is wrong \& must be replaced by 62.
41.(A)Deductive reasoning determines whether the truth of a conclusion can be determined for that rule, based solely on the truth of the premises.
42.(D) $(2)^{2}=4,(5)^{2}=25 \Rightarrow 425$
$(2)^{2}=4,(4)^{2}=16 \Rightarrow 416$
$(3)^{2}=9,(5)^{2}=25 \Rightarrow 925$.
43. (A) Such decisions as given in the statement are taken only after taking the existing vacancies into consideration. So, I implicit while II does not implicit.
44.(D) CD-ROM disk is the latest w rite-once optical storage media
45.(D) Domain Name identifies a specific web page and its computer on the Web.
46.(D) The required region is the one which is common only to the rectangle and circle and is not a part of either the triangle or square
47.(C) The required region is the one which lies inside the circle but outside the rectangle, square and triangle,
48.(D) The man in the photo is the son of the sister of Bajpai. Hence, Bajpai is the maternaluncle of the man in the photograph.
49.(B) Light Year is a unit of distance.
50.(A) Tsunamis are huge sea waves caused by earthquakes.

## PAPER-ll

1. (B) Panplane - Crickmay

Pediplane - King
Peniplain - Davis
Primarumpf - Penck
2. (A) Effusive eruption - Kilauea - (Haw aii)

Explosive volcano - Mount Pinatubo
Glowing cloud - Martinique (Caribbean Islands)
Composite cone - Mt. Orizba (Mexico)
3. (A) Consequent Valley - Course deter mined by the initial slope of the land

Subsequence Valley - Course shifted fromthe original consequent ones to more readily erosible rocks.
Insequent Valley - Show ing no apparent adjustment to structural control
Obsequent Valley - Draining in a direction opposite to the of the original consequent valleys.
4. (D) All are correct
5. (D) All are correct
6. (B) Aurora borealis occur in the Earth's ionosphere, and result from collisions between energetic electrons (sometimes also protons, and even heavier charged particles) and atoms and
molecules in the upper atmosphere. The ultimate origin of the energy which powers the aurora borealis is the Sun - via the solar wind - and the Earth's magnetic field.
7. (B)


| Subpolar low | - | $60^{\circ} \mathrm{N}, 60^{\circ} \mathrm{S}$ |
| :--- | :--- | :--- |
| Subtropical high | - | $20^{\circ}$ to $35^{\circ} \mathrm{N}$ and S |
| Equatorial low | - | $10^{\circ} \mathrm{N}$ to $10^{\circ} \mathrm{S}$ |
| Polar high | - | $90^{\circ} \mathrm{N}, 90^{\circ} \mathrm{S}$ |

8. (A) Hurricanes/typhoons - Circular isobars

Tropical storms - Closed isobars
Tropical depressions - Gale force, light rainfall
Tropical disturbance - Low w inds, Patches of clouds
9. (B) Cumulonimbus is a dense towering vertical cloud associated $w$ ith thunderstorms and atmospheric instability, forming from water vapour carried by powerful upw ard air currents. Cumulonimbus may form alone, in clusters, or along cold front squall lines. They may produce lightning and other dangerous severe weather, such as gusts and hail. Cumulonimbus progress from over-developed cumulus congestus clouds, and may further develop as part of a supercell. Cumulonimbus is abbreviated $\mathbf{C b}$, and are designated in the D2 family.
10.(D) The typical area of sal forest in the Indian peninsular upland occurs on the Malw a plateau
11.(B) Aldrich/Tonga lies in South Pacific

Challenger lies in North Pacific Narer/Puerto Rico lies in North Atlantic Romanche lies in South Atlantic
12.(B) By Counter equatorial currents.

13. (B) Coral reefs are underwater structures made from calcium carbonate secreted by corals. Coral reefs are colonies of tiny living animals found in marine waters that contain few nutrients. Most coral reefs are built from stony corals, which in turn consist of polyps that cluster in groups. The polyps are like tiny sea anemones, to which they are closely related. Unlike sea anemones, coral polyps secrete hard carbonate exoskeletons which support and protect their bodies. Reefs grow best in warm, shallow, clear, sunny and agitated waters.
14. (C) Mollisols - Grassland, not Taiga
15. (D) All are correct
16.(C) P waves travel faster and are the first to be recorded on seismograph.

P -w aves can be transmitted through the liquid but S-w aves are not.
17. (B)


Gutenberg discontinuity divides outer core with inner mantle. Since, there is a change of mediumfromsolid to liquid. Hence the ray gets refracted at this depth.
18. (B) The number of tributaries decreases and the original channel becomes wider as we go to the dow nstream.
19. (A)


Anlanas: © Wa'mna
1/1/1111111111111/ gum
Whenever air ascends, it condenses \& gives rain. While descending air get warm adiabatically and does not give any rains.
20. (B) Both $A$ and $R$ are true individually, $R$ is not the explanation of $A$
21. (B) Texture represents the average size of the particles of the soil which is determined by amount of sand, silt and clay.
Their composition w ith humus will define the structure of soil.
22. (C)


Fig: Variation of salinity with depth.
Rapid increase or decrease of salinity w ith depth is known as Halocline
In Benthic zone salinity remains uniform and constant.
23. (B) Both $A$ and $R$ are true individually; $R$ is not the explanation of $A$
24. (D) All are correct
25. (C) Labels of horizontal bar can be read more easily as compared to vertical bar.
26. (A) Globe has limited use or significance in the field of practical purpose.
27. (A) Eratosthenes was the first person to calculate the circumference of the earth by using a measuring system using stades, or the length of stadiums during that time period (w ith remarkable accuracy). He w as the first to calculate the tilt of the Earth's axis (also with remarkable accuracy). He may also have accurately calculated the distance from the earth to the sun and invented the leap day. Eratosthenes was the first person to calculate the circumference of the earth by using a measuring system using stades, or the length of stadiums during that time period (w ith remarkable accuracy). He w as the first to calculate the tilt of the Earth's axis (also w ith remarkable accuracy). He may also have accurately calculated the distance from the earth to the sun and invented the leap day.
28. (C) The most influential individual on the theory of the astrolabe projection was Hipparchus who w as born in Nicaea in Asia Minor (now Iznik in Turkey) about 180 BC but studied and worked on the island of Rhodes. Hipparchus, who also discovered the precession of the equinoxes and $w$ as influential in the development of trigonometry, redefined and formalized the projection as a method for solving complex astronomical problems without spherical trigonometry and probably proved its main characteristics. Hipparchus did not invent the astrolabe but he did refine the projection theory.
29. (C) Muhammad bin Tughlug w as renow ned as the wealthiest man in the Muslim Wor Id at that time. He patronised various scholars, sufis, gadis, vziers and other functionaries in order to consoidate his rule. As with Mamluk Egypt, the Tughlaq Dynasty w as a rare vestigial example of Muslim rule in Asia after the Mongol invasion. On the strength of his years of study in Mecca, lon Battuta was appointed a qadi, or judge, by the sultan. He found it difficult to enforce Islamic laws beyond the sultan's court in Delhi, due to lack of Islamic appeal in India.
30. (A) The idea of building a Panama canal across Central America was suggested by German scientist Alexander von Humboldt, which led to a revival of interest in the early-19th century. In 1819, the Spanish government authorized the construction of a canal and the creation of a company to build it.
31. (C) The word Landschaft is common, in various spellings, to the Germanic languages of Northern Europe. the word Dutch generally meant German or Germanic at the time the word entered the English language (O.E.D. 1971: Dutch). When approached in historical and geographical context, it becomes clear that Landschaft was much more than "a restricted piece of land." It contained meanings of great importance to the construction of personal, political and place identity at the time".
32. (A) Baobab is Savanna vegetation.
33. (C) Chelyabinsk - Ural region

Irkutsk - Baikal region
Moscow - Central Industrial region
Samara - Volga region
34. (D) Jerusalemis a city revered by Jews, Christians, and Muslims. It reflects the fervor and piety of the three major monothe istic faiths, each of which is bound to Jerusalem by veneration and love.
35. (A) Human economic activity has been scarce on fundras. Hunting and trapping reindeer have provided food and hides to the local population. Occasional mineral resources, such as fossil fuel and ores occasionally appear in tundras. Difficulties of prospecting, mining and transportation have held back exploitation of these resources until modern times.
36. (C) Brunei, the Abode of Peace (Malay: Negara Brunei Darussalam, Jawi:, Arabic: is a sovereign state located on the north coast of the island of Borneo, in Southeast Asia. Apart from its coastline with the South China Sea, it is completely surrounded by the state of Sarav ak, Malaysia, and it is separated into tw o parts by the Sarawak district of Limbang. It is the only sovereign state completely on the island of Borneo, with the remainder of the island belonging to Malaysia and hdonesia. Brunei's population w as 401,890 in July 2011.
37. (A) Tin is found in Tasmania
38. (D) The coal reserves in the north-eastern part of Singraulicoalfie ld, covering an area of around $220 \mathrm{~km}^{2}$, is 9,121 million tonnes, out of which 2,724 milion tonnes are proved resenves and
the rest is inferred or indicated. Thickness of coal seams in Indian coalfields generally range from 1 m to 30 m An exceptionally thick seam of 138 m has been discovered in Singrauli coalfield
.39. (D) The Khadar soils contain calcareous concretions (Kankars). The soils is more loamy and clayey in the lower and middle Ganga plain and the Brahamaputra valley. The colour of the alluvial soil varies from the light grey to ash grey. Crops: rice, sugarcane, tobacco, banana, cotton, wheat, jute, maize, oilseeds and vegetables.
40. (A) About 40 per cent of the total Virginia tobacco production is used for domestic cigarette industry while the rest is exported to markets all over the world. Virginia tobacco is grown mostly in the States of Andhra Pradesh and Karnataka. In Andhra Pradesh the cultivation of Virginia tobacco is concentrated in the coastal districts of Prakasam, Guntur, Krishna, East and West Godavari and Nellore and in Khammam, Karimagar and Warangal Districts of Telangana.
41. (D) All are correct
42. (D) All are correct
43. (C) "Kakrapar - Orissa" Is not correctly matched.
44. (C) Namdapha National Park is the largest protected area in the Eastern Himalaya biodiversity hotspot and is located in Arunachal Pradesh in Northeast India. The park is located betw een the Dapha bum range of the Mishmi Hills and the Patkai range with a wide altitud inal range betw een 200 m as and 4571 m as
45. (D) India's exports far exceeded her imports both in the number of items as well as in volume. The chief articles of import were horses, from Kabul and Arabia, dry fruits and precious stones. India also imported glassw are from Europe, high grade textiles like satin from West Asia, while China supplied raw silk and porcelain. Foreign luxury goods were highly popular among the royalty and the nobility. These included wines, dry fruits, precious stones, corals, scented oils, perfumes and velvets.
46. (A) Ennore port lies north of Chennai.
47. (A) Sentence 2 of the passage says that discovery of more new planets is responsible for the wrong predictions of astrologers.
48. (C) Morbid passion - Fearful insight
49. (D) Earth is the third planet from the Sun, and the densest and fifth-largest of the eight planets in the Solar System. It is also the largest of the Solar Systems four terrestrial planets. It is sometimes referred to as the world, the Blue Planet or by its Latin name, Terra.
50. (B) Concluded from the 3 rd sentence of the passage that the ambit of roles $\&$ functions of PSUs is much wider.

## PAPER - III

1.(D) Sugar cane of south has higher sucrose content (more sw eet), and requires longer period for crushing.
2.(A) India's copper ore reserves have been estimated at 400 million tonnes, $w$ ith a metal content of 5 million tones. The principal copper belt of India lies in Singhbhum and Hazarbagh in Bihar. The mining centers are located at Mosabani, Gahatsila, Thobani and Badia of Singbhbum, Hazaribagh of Bihar, the Khetri and Dariba area of Rajasthan, and Agnigundala of Andhra Pradesh, Total production is 2.6 million tones.
3.(A) Jhum (Shifting) cultivation is a primitive practice of cultivation in States of North Eastern Hil Region of India and people involved in such cultivation are called Jhumia. The practice involves clearing vegetative/forest cover on land/slopes of hills, drying and burning it before onset of monsoon and cropping on it thereafter. After harvest, this land is left fallow and vegetative regeneration is allow ed on it till the pbt becomes reusable for same purpose in a cycle. Meanw hile, the process is repeated in a new plot designated for Jhum cultivation during next year. Initially, when Jhum cycle was long and ranged from 20 to 30 years, the process w orked w ell
4.(C) The Great hdian Peninsular Plateau, alternatively know n as the Plateau of the Peninsular India, is a vast plateau, comprising most of the southern part of the country. The Great

Indian Peninsular Pateau is formed essentially of the ancient igneous rocks. Malw a Plateau is drained to the north and is formed by horizontally bedded sandstones and limestones that were laid dow $n$ during the earlier Gondwana period. During this period, the Malw a Plateau was submerged under the sea. South of the Satpura Mountain Range, the peninsula is named the Deccan Plateau.

5.(A) Gondw ana series forms the coal beaning belt of India which also includes Bihar Orissa \& West Bengal
6.(B) Groundnut is currently grown on over 22.2 million hectares $w$ orldw idew ith a total production of over 35 million tonnes. India is the world's largest producer of groundnuts, accounting for over $41 \%$ of world production respectively. Millions of small-holder farmers in Sub-Saharan Africa grow groundnut as a food and cash crop, accounting for over 9 million hectares of cultivated farmland. Even as India is the world's largest producer, it account for only a s mall part of international trade because most of its production is consumed domestically as peanut oil.
7.(A) Jute holds an extra-edge over other synthetic packing material \& faces very less competition. But due to inadequately of row jute and declining demand for jute in overseas market, Jute industry in India facing a crises.
8.(A)


Ethnic divisions
(1) Aryans Nordics, dinaric and True Mediterranean
(2) Dravidians $\square$ Proto-Austroloid, Paleo-Mediterranean and Negrito
(3) Mongoloids $\boxtimes$ Paleo-mongoloid and Tibet Mongoloids
9.(A) The Hooghly River or Hugli or the Bhagirathi-Hooghly, is an approximately 260 kilometres ( 160 mi ) long distributary of the Ganges River in West Bengal, India. It splits from the Ganges as a canal in Murshidabad District at the Farakka Barrage. The town of HugliChinsura, formerly Hooghly, is located on the river, in the Hooghly (district). The origins of
the Hooghly name are uncertain, whether the city or the river was named first. After entering Bangladesh, the main branch of the Ganges is know $n$ as the Padma. The Padma is joined by the Jamuna River, the largest distributary of the Brahmaputra. Further dow nstream, the Padma joins the Meghna River, the second largest distributary of the Brahmaputra, and takes on the Meghna's name as it enters the Meghna Estuary, which empties into the Bay of Bengal.
10.(C)

11.(D) Latin America stretches from the Rio Grande River, continues past the Equator, and finally ends just north of Antarctica. Latin Amer ica also contains a variety of landforms including the Andes Mountain, the Amazon River Basin, Brazilian Highlands, and various deserts. Due to the variations in latitude and landforms, Latin A merica contains several different types of climate such as humid sub-tropical, humid continental, as well as dry desert regions.
12.(D) Terrace farming allow s crops to be grown on the sides of elevated terrain. This agricultural practice w as w idespread among the Inca in the Andes Mbuntains and the early Chinese.
13.(B) Baghdad, the capital of raq, stands on the banks of the Tigris.The Tigris River is the eastern member of the two great rivers that define Mesopotamia, the other being the Euphrates. The river flows south from the mountains of southeastern Turkey through Iraq. Baghdad, the capital of Irag, stands on the banks of the Tigris.
14.(D)

15.(A) Rhine river flows near Paris.
16.(B)

17.(B) Karnataka Plateau does not come under the zone of high seis mic intensity whereas Uttarakhand \& HP are seismic due to Himalayas Kachch is also seismic due to its interior.
18.(C)

19.(C) The Pem ayangtse Monastery is a Buddhist monastery in Pemayangtse, near Pelling in the northeastern Indian state of Silkim, located 140 kibmetres ( 87 m ) west of Gangtok. Planned, designed and founded by Lama Lhatsun Chempo in 1705, it is one of the oldest and premier monasteries of Sikkim
20.(D) NH-2 Delhi - Mathura- Agra- Kanpur-Allahabad- Varanasi-Kolkatta.

NH-3 Agra- Gv aior - Nasik- Mumbai
NH-4 Thane- Chennai

NH-9 Mumbai - Vijay Wada
21.(C) The largest glacial bodies, ice sheets or continental glaciers, cover more than $50,000 \mathrm{~km}^{2}$ (20,000 mile ${ }^{2}$ ). Several kilometers deep, they obscure the underlying topography. Only nunataks protrude from the surface. The only extant ice sheets are the two that cover most of Antarctica and Greenland. These regions contain vast quantities of fresh water. The volume of ice is solarge that is the Greenland ice sheet melted, it w ould cause sea levels to rise six meters ( 20 ft ) all around the w orld. If the Antarctic ice sheet melted, sea levels w ould rise up to 65 meters ( 210 ft ).
22.(D) Harmattan are cool, dry local winds of Africa which blow in December to February which carries great amount of fine dust from the Sahara.
23.(A) North east Atlantic region -In round figures the fisheries of the United Kingdom employ about 65,000 men, or in all give employ ment to double that number of people, so that, w ith dependants, approximately half a million of the population of the country depend upon this industry. 2 The annual catch is about a million tons, and the fishing fleet numbers over 12,000 vessels. According to FAO, the world production of sea- fish is $21,000,000$ metric tons annually, so that Britain's share is about 5 per cent. of the world's total. The largest and most important of the banks is the well-known Dogger Bank, which, with an area of something like 7,000 square miles, is covered by water only $10-20$ fathoms deep.
24.(A) Chinook also known as "snow eaters" as they are hot and dry wind capable of meeting ice.
25.(A) Gulf of Bothnia [refer atlas - w orld map or map of Europe]
26.(B)
$\left.\begin{array}{l}\text { Andes - Ameriea } \\ \text { Him alayas - India }\end{array}\right\} \Rightarrow \mathrm{A}, \mathrm{C}$ are incorrect
Alps, Carpathians, Pyrenees \& Apennines belong to Europe
27.(C) lonosphere helps from meteorites.

Stra to sphore $\rightarrow$ UV rays \& other harmful rays
28.(D) Oceania = Australia + New Zealand + SE Asia (Island), Highest Peak = Puncak Jaya, Indonesia
29.(C) The land sea distribution or the positions of the world's continents and major oceans affects pressure belts \& air masses
30.(D) The Volga is the bngest river in Europe; it is also Europe's largest river in terms of discharge and watershed. It flows through central Russia, and is widely viewed as the national river of Russia. Eleven of the twenty largest cities of Russia, including the capital, Moscow, are situated in the Volga's drainage basin. Some of the largest reservoirs in the world can be found along the Volga.
31.(C) In physical geography, a steppe is an ecoregion, in the montane grasslands and shrublands and temperate grasslands, savannas, and shrublands biomes, characterized by grassland plains $w$ ithout trees apart from those near rivers and lakes. The world's largest steppe region, often referred to as "the Great Steppe", is found in southw estern Russia and neighbouring countries in Central Asia, stretching from Ukraine in the west through Turkmenista
32.(D) Cinnabar - HgS

Galena - PbS
Pyrite - Cu \& Fe Sulphide
33.(B) As cocoa- cultivated along w estern coast of Africa [mainly ivory coastal].

Wine - in Me diterranean region,
Tobacco is not cultivated in Sudan at all.
Therefore the major crops found in Sudan are Maize, cotton bananas, groundnut.
34.(D) The aim of a multipurpose project is storing water for irrigation purposes, generating hydroelectricity by utilising the water stored by the dams, preventing floods and facilitating afforestation in the catchments areas of the reservoirs. Moreover, the dams also provide
drinking $w$ ater, using the canals for navigation in some areas and also facilitating Pisciculture and recreational activities.
35.(D) Mistral is a cold $w$ ind that blows for 100 days in a year from central France (w estern Alps)
36. (B) The year 1921 is taken as the demographic divide for the reason that before this year, the population w as not stable, sometimes it increased and at other times it decreased.

The grow th rate of population $w a s$ generally low before 1921. But after this year, there has been considerable and continuous increase in the population.

Between 1901 and 1911, the total increase in population w as $5.9 \%$ and between 1911 and 1921, there $w$ as a decrease of $0.39 \%$. In the decade of 1921-1931, the increase was $11.1 \%$,
37.(D) Plate tectonics (from the Late Lat in tectonicus, from the Greek "pertaining to building") is a scientific theory that describes the large-scale motions of Earth's lithosphere. The model builds on the concepts of continental drift, developed during the first decades of the 20th century. Lateral density variations in the mantle result in convection. Plate movement is thought to be driven by a combination of the motion of the seafloor away fromthe spreading ridge (due to variations in topography and density of the crust, which result in differences in gravitational forces) and drag, downwardsúction, at the subduction zones
38.(C) Kuro siw o is a w armcurrent.

39.(D) The Ministry of Water Resources, Works and Housing has as its main functions the formulation and co-ordination of policies and programmes for the systematic development of the country's infrastructure requirements in respect of Works, Housing, Water Supply and Sanitation and Hydrology. The Ministry co-ordinates and supervises, by way of monitoring
and evaluation of the performance of both public and private agencies responding to and participating in the realisation of the policy objectives established for the sector.
40.(D) Kharif crop, refers to the planting, cultivation and harvesting of any domesticated plant sow n in the rainy (monsoon) season on the Asian subcontinent. Such crops are planted for autumn harvest and may also be called the summer or monsoon crop in India and Pakistan. Kharif crops are usually sown with the beginning of the first rains in July, during the southwest monsoon season
Common kharif crops

- Soybean
- Rice is the main kharif crop
- Gwara
- Paddy
41.(B) The winter solstiœ is the solstice that occurs in winter. It is the time at which the sun appears at noon at its lowest altitude above the horizon. In the Northern He misphere this is the Southern solstice, the time at which the Sun is at its southernmost point in the sky, which usually occurs on December 21 to 22 each year. More evident from high latitudes, a hemisphere's winter solstice occurs on the shortest day and longest night of the year, when the sun's daily maximum elevation in the sky is the low est. Since the winter solstice lasts only a moment in time, other terms are often used for the day on which it occurs, such as "midwinter", "the longest night", "the shortest day" or "the first day of winter".
42.(B) First, a few words about the Precambrian, an informal name for the vast expanse of time prior to the Phanerozoic Eon (w hich includes the Paleozoic, Mesozoic, and Cenozoic Eras). The Earth formed. It then took nearly four thousand million years before the first animals would leave their traces on the planet. This span of time makes up roughly seven-eighths of the Earth's history. During the Precambrian, the most important events in biological history took place. Consider that the Earth formed, life arose, the first tectonic plates arose and began to move, eukaryotic cells evolved, the atmosphere became enriched in oxygen -
and just before the end of the Precambrian, complex multicellular organis ms, including the first animals, evolved.

The Precambrian is divided into three eons. From youngest to oldest, they are: the Proterozoic, the Archean, and the Hadean (this latter being an informal name).
43.(B) Oceanic crust generally gets subdued and hence has rocks younger to the rocks of continental crust.
44.(D) Weathering is the breaking dow $n$ of rocks, soils and minerals as $w$ ell as artificial materials through contact $w$ ith the Earth's atmosphere, biota and waters. Weathering occurs in situ, or " $w$ ith no movement", and thus should not be confused with erosion, which involves the movement of rocks and minerals by agents such as water, ice, snow, wind, waves and gravity.
45.(A) The pyramidal peaks that form when several cirques chisel a mountain form three more sides are called Horns
46.(A) Chlorine - comes from $\mathrm{NaC}, \mathrm{MgCl}_{2}$, etc.

Sodium - comes from $\mathrm{NaC}, \mathrm{KCl}$, etc.
Sulphate - comes from $\mathrm{MgSO}_{4}, \mathrm{CaSO}_{4}$, etc
Magnesium - comes from $\mathrm{MgSO}_{4}, \mathrm{MgCl}_{2}$, etc
Calcium - co mes from $\mathrm{CaCO}_{3}, \mathrm{CaSO}_{4}$
Potassium - comes from $\mathrm{KCl} \mathrm{K}_{2} \mathrm{SO}_{4}$, etc
47.(A) The process that explains the recent changes in the height of sea level in coastal areas of eastern and northern Canada and Scandinavia is Isostasy
48.(A) The Jordan River is a 251 -kilometre ( 156 mi )-long river in West Asia flow ing to the Dead Sea. Currently, the river serves as the eastem border of the State of Israel. In Christian
tradition, Jesus was baptised in it by John the Baptist. The Hashemite Kingdom of Jordan takes its name fromthis river.
49.(A) Mediterranean climatic region is famous for its $w$ ine fruit production, flow er cultivation \& wheat \& w ool production.
50.(B) The Rhine is a river that flows from Grisons in the eastern Sw iss Alps to the North Sea coast in the Netherlands and is the twelfth longest river in Europe, at about $1,233 \mathrm{~km}$ ( 766 mi ), with an average discharge of more than $2,000 \mathrm{~m}^{3} / \mathrm{s}(71,000 \mathrm{cu} \mathrm{ft} / \mathrm{s}$ )

51.(D) The Jaikawadi project is one of the largest irrigation projects in the hdian state of Maharashtra. t is a multipurpose project. Its water is used mainly to irrigate agricultural land in the drought-prone Marathw ada region of Maharashtra. It also provides water for drinking and industrial usage to nearby tow ns and villages and to the municipalities and industrial areas of Aurangabad and Jalna. It is located on Godavari river at the site of Jayakaw adi village in Paithan taluka of Aurangabad district in Maharashtra state, India.
52.(C) The Agricultural irrigated land (\% of total agricultural land) in India was 35.12 in 2009, according to a World Bank report, published in 2010. Agricultural irrigated land refers to
agricultural areas purposely provided $w$ ith water, including land irrigated by controlled flooding.

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53.(D)

54.(A) The Nilgiri Hils, a range of mountains w th at least 24 peaks above 2,000 meters ( $6,562 \mathrm{ft}$ ), in the westernmost part of Tamil Nadu at the junction of Karnataka and Kerala states in Southern India.

They are part of the larger Western Ghats mountain chain making up the southw estern edge of the Deccan Plateau. The hills are separated from the Karnataka plateau to the north by the Mbyar River and from the Anaimalai Hills and Palni Hills to the south by the Palghat Gap.
55.(D) The major controling factor over a tropical monsoon climate is its relationship to the monsoon circulation. The monsoon is a seasonal change in wind direction. In Asia, during the summer (or high-sun season) there is an onshoreflow of air (air moving from ocean tow ards land). In the "w inter" (or low -sun season) an offshore air flow (air moving from land
tow ard water) is prevalent. The change in direction is due to the difference in the way water and land heat.
Changing pressure patterns that affect the seasonality of precipitation also occur in Africa though it generally differs from the way it operates in Asia. During the high-sun season, the Intertropical convergence zone (ITCZ) induces rain.
56.(A) Mawsynram in Meghalaya is bound by hills from the 3 sides. Moisture $w$ inds which enters from the fourth side have to elevate themselves and due to adiabatic cooling they given lot of rain in the region enclosed.
57.(A) The coastal region of China contain the best agricultural lands as well as access to the Pacific Ocean, making it much easier to live on than the interior of the country which is dominated by deserts and other harsh geographic features.
58.(C) Besides $w$ hat is available from the sea, there are very few natural resources available to Japan. Japanese manufacturing is heavily dependent on importing natural resources which are then converted into products such as automobiles, electronics, and steel.
59.(C) Topographical maps show the lay of the land, and thus would be ideal for use in estimating the elevation of Bangkok, Th ailand.
60.(C) Benguela current which moves south to north along the western coast of southern Africa is an example of cold current.
61.(B) In 1519, Portuguese navigator Ferdinand Mage lan, in the employ of Spain, began a journey across the Atlantic Ocean to seeka w estern route to the Spice Islands via So uth America. After braving perilous seas and navigating through what are now known as the Straits of Magellan, his s mall fleet entered an unfamiliar ocean in Nov. 1520. He called this body of water pacific, due to the calmness of thew ater at the time ('pacific' means peaceful).
When Magellan and his crew entered the Pacific Ocean after their long journey, they thought that the Spice Islands were close at hand. Little did they know that their destination remained thousands of miles away. The explorers had ventured into the largest ocean on

Earth. Covering approximately 155 million square kilometers and containing more than half of the free water on Earth, the Pacific is by far the largest of the w orld's ocean basins. All of the world's continents could fit into the Pacific bas in
62.(A) Fishing activity is common in the Mediterranean region and adds to the bcal economy. Coastal areas are most suitable for fishing. Sardines are the chief commercial catch.
Mining is an important activity in these regions. Mediterranean basin has not such minerals, which may help in establishing heavy industries. Bauxite is found in the Rhine Valley of France and Yugoslavia.
63.(B) The Mollweide projection is a pseudocylindrical map projection generally used for global maps of the world (or sky). Also know $n$ as the Babinet projection, homalographic projection, homolographic projection, and elliptical projection. As its more explicit name Mollwe ide equal are a projection indicates, it sacrifices accuracy of angle and shape in favor of accurate proportions in area. It is used primarily w here accurate representation of area takes precedence over shape, for instance small maps depicting global distributions.
64.(A) The temperature difference betw een the equator and the poles generates the global general circulation which redistributes heat from low latitudes to high latitudes. The general circulation is made up of a number of large-scale circulation cells, which consist of rising and descending air. Such large-scale vertical movement of air generates pressure differences across the Earth, which assist the development of surface winds that transfer the heat. Latitudinal differences in pressure delineate a number of major pressure zones which correspondwith zones of climate.
65.(A) The Japanese archipelago has very limited natural resources. By far, the most abundant natural resources available to the Japanese is that which can be harvested from the surrounding ocean.
66.(D) A closely related and perhaps more common misconception is that the equator is $w$ armer than the poles because the equator is significantly closer to the sun than are the poles (i.e.
the equator "bulges out" tow ard the sun). But the professional geoscientists explain this phenomenon by erroneously stating that the northern hemisphere is closer to the sun in June than it is in December because Earth's till tow ard the sun in June makes the northern hemisphere "bulge out" tow ard the sun. The angle of incident sunlight determines the intensity of the solar energy that strikes the ground and hence how the angle of incident sunlight can be used to explain both seasonal and latitudinal differences in temperature. This seemingly unrelated topic is included in this activity because an accurate perception of the scale of the solar system helps students understand that (1) Earth's equator is not significantly closer to the sun than are its poles, and (2) all sunrays intercepted by Earth are essentially parallel to each other, whether they strike the equatorial or polar regions -- a concept that is essential for understanding how and why the angle of incident sunlight varies systematically w ith latitude and season.
67.(B) Roald Engelbregt Gravning Amundsen (Norwegian) 16 July 1872 - c. 18 June 1928) was a Norw egian explorer of polar regions. The first humans to reach the Geographic South Pole were Norwegian Boald Amundsen and his party on December 14, 1911. Amundsen named his camp Polheim and the entire plateau surrounding the Pole King Haakon VII Vidde in honour of King Haakon VII of Norw ay. Robert Falcon Scott had also returned to Antarctica with his second expedition, the Terra Nova Expedition, in a race against Amundsen to the Pole. Scott and four other men reached the South Pole on January 17, 1912, thirty-four days after Amundsen. On the return trip, Scott and his four companions all died of starvation and extreme cold.
68.(B) One of the biggest challenges that the Japanese government face today is its aging population and negative population growth rate. 22.9 percent of the Japanese population is above the age of 65 w hile Japan's total fertility is the $5^{\text {th }}$ low est in the $w$ orld.
With only about 15 percent of its land being arable, Japan imports about 60 percent of grain and fodder crops from other countries, and relies on imports for most of its meat products. Japan is also the largest market for EU and th ird largest market for US agricultural exports.

With its lack of natural resources, Japan rely on the imports of commodities such as fuels, foodstuffs, chemical, textiles and raw materials from various countries for its industrial sectors.
69.(C) lonosphere includes ther mosphere and exosphere .
70.(C) Yarlung Tsangpo or Yarlung Fiver is a watercourse that originates at Ta mung Tso lake in western Tibet, southeast of Mbunt Kailash and Lake Manasarovar. It later forms the South Tibet Valley and Yarlung Tsangpo Grand Canyon, before passing through the state of Arunachal Pradesh, India, where it is know $n$ as the Dihang.
Downstreamfrom Arunachal Pradesh the river becomes wider and at this point is called the Brahmaputra River.
71.(C) Guinea officially the Republic of Guinea, is a country in West Africa. Formerly know n as French Guinea, it is today sometimes called Guinea-Conakry or Guinea to distinguish it from its neighbour Guinea-Bissau and the Republic of Equatorial Guinea.
Guinea's economy is largely dependent on agriculture and mineral production. It is the world's second largest producer of bauxite, and has rich deposits of diamonds and gold. Guinea officially the Republic of Guinea, is a country in West Africa. Formerly know $n$ as Erench Guinea, it is today sometimes caled Guinea-Conakry or Guinea to distinguish it from its neighbour Guinea-Bissau and the Republic of Equatorial Guinea.

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72.(A) $2.4 \%$ land in the earth surface.
73.(B) India has lost 367 square kilometres of forest cover in the past two years. According to the India State of Forest Report, 2011, released by the Forest Survey of India (FSI) on February 7, the total forest cover in the country is now at $6,92,027 \mathrm{sq} \mathrm{km}$. This accounts for 21.05 per cent of the total geographical area of India.
74.(A) Mathura Refinery (Near Delhi)

Mathura Refinery, the sixth refinery of Indian Oil was commissioned in 1982 w ith a capacity of 6.0 MMTPA to meet the demand of petroleum products in north western region of the country, which includes National Capital Region. Refinery is located along the Dehi-Agra National Highw ay about 154 KMaw ay from De hi.

## Digboi Refinery (Upper Assam)

The Digboi Refinery in North Eastern India is India's oldest refinery and was commissioned in 1901. Originally a part of Assam Oil Company, it became part of Indian Oil in 1981. Its original refining capacity had been 0.5 MMTPA since 1901.

## Panipat Refinery (Near De Ihi)

Panipat Refinery has doubled its refining capacity from $12 \mathrm{MMT} / \mathrm{yr}$ to $15 \mathrm{MMT} / \mathrm{yr}$ with the commissioning of its Expansion Project. Panipat Refinery is the seventh refinery of Indian Oil. It is located in the historic district of Panipat in the state of Haryana and is about 23 kmfrom Panipat City.
75.(D) Subsistence agriculture is self-sufficiency farming in which the farmers focus on growing enough food to feed themselves and their families. The typical subsistence farm has a range of crops and animals needed by the family to feed and clothe themselves during the year. Most subsistence farmers today live in developing countries like India. Although the ir amount of trade as measured in cash is less than that of consumers in countries with modern complex markets, many have important trade contacts and trade items that they can produce because of their special skills or special access to resources valued in the marketplace.

