Atomic Energy Central School No. 4 Rawatbhata

Multiple Choice Question Examination (October 2019)

Class IX Subjects: Mathematics, Science and Social Science MM: 120

Name:_____ Class/Sec: _____

OMR Roll No:_____Invigilator's Sign:_____

Instruction: 1) Fill & darken roll number field correctly on OMR Sheet. In case of any error, OMR Answer Sheet will be not be read by the OMR Scanner.

2) Darken the most suitable option no. on OMR Answer Sheet.

3) There is no negative marking.

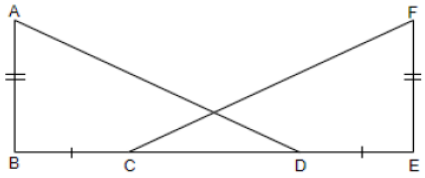
Mathematics

1. In $\triangle ABC$, if $\angle B = 30^\circ$ and $\angle C = 70^\circ$, then which of the following is the longest side? **1**

a) AC b) BC

c) AB d) AB or AC

2. In the adjoining figure, AB⊥BE and FE⊥BE. If AB = FE and BC = DE ,then **1**



a) $\triangle ABD \cong \triangle EFC$ b) $\triangle ABD \cong \triangle CEF$

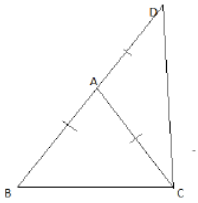
c) $\triangle ABD \cong \triangle ECF$ d) $\triangle ABD \cong \triangle FEC$

3. $\triangle ABC \cong \triangle PQR$, then which of the following is true? **1**

a) CA = RP b) CB = QP

c) AB = RP d) AC = RQ

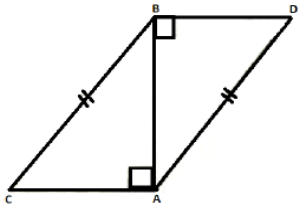
4. In an isosceles, $\triangle ABC$ AB = AC and side BA is produced to D such that AB=AD. Then the measure of $\angle BCD$ is **1**



a) 70^o b) 90^o

c) 100^o d) 60^o

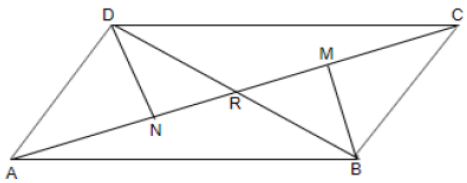
5. In the adjoining figure, BC = AD, CA⊥AB and BD⊥AB. The rule by which $\triangle ABC \cong \triangle BAD$ is **1**



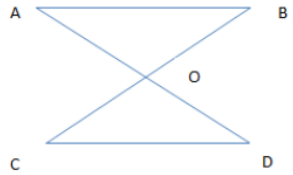
a) ASA b) RHS

c) SSS d) SAS

6. In quadrilateral ABCD, BM and DN are drawn perpendiculars to AC such that BM = DN. If BR = 8 cm. then BD is **1**



a) 12 cm
b) 4 cm
c) 16 cm
d) 2 cm

7. 

1

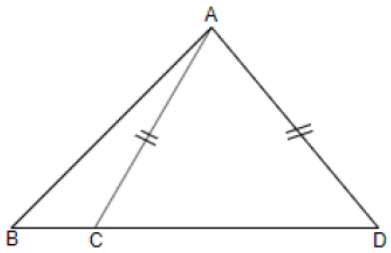
In the above figure AB $\parallel$ CD ,O is the mid point BC. Which of the following is true?

a) $\triangle AOB \cong \triangle DOC$
b) AB = CD
c) O is the mid point of AD
d) All are true

8. In $\triangle PQR$, $\angle P = 60^\circ$, $\angle Q = 50^\circ$ .Which side of the triangle is the longest? **1**

a) QR
b) PR
c) PQ
d) None.

9. In the adjoining figure, if AC = AD, then **1**

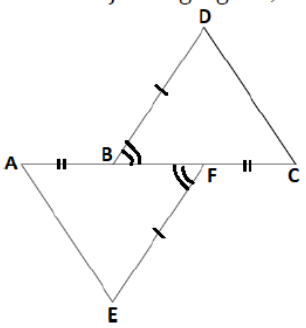


a) AB $\leq$ AD
b) AB = AD
c) AB < AD
d) AB > AD

10. The length of two sides of a triangle are 7 units and 10 units. Which of the following length can be the length of the third side? **1**

a) 3 cm
b) 19 cm
c) 17 cm
d) 13 cm

11. In the adjoining figure, AB = FC, EF = BD and $\angle$AFE = $\angle$CBD. Then the rule by which $\triangle AFE \cong \triangle CBD$ **1**

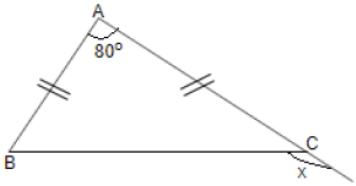


a) SSS
b) AAS
c) ASA
d) SAS

12. In a triangle ABC, $\angle B$ = 35° and $\angle C$ = 60°, then the shortest side is **1**

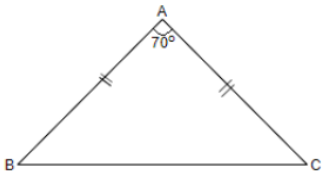
a) BC
b) AB
c) AB and BC
d) AC

13. In fig, in $\triangle ABC$, AB = AC, then the value of x is: **1**



a) 120^o
b) 100^o
c) 130^o
d) 80^o

14. In the adjoining figure, AB = AC and $\angle$A = 70°, then $\angle$C is **1**



a) 110° b) 40°

c) 70° d) 55°

15. In $\triangle ABC$, $\angle A = 50^\circ$, $\angle B = 60^\circ$, Find the longest side of the triangle **1**

a) BC b) Cannot be determined

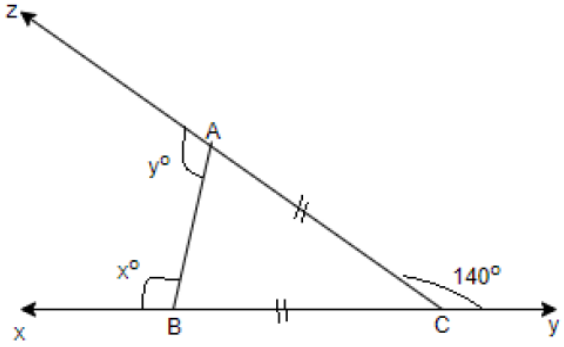
c) CA d) AB

16. In right angled Δ DEF if $\angle E = 90^\circ$, then: **1**

a) DE is the longest side b) DF is the shortest side

c) EF is the longest side d) DF is the longest side

17. In fig, AC = BC and $\angle ACY = 140^\circ$. Find X and Y: **1**



a) 80° and 80° b) 110° and 110°

c) 95° and 105° d) 50° and 120°

18. If the bisector of the angle A of a $\triangle ABC$ is perpendicular to the base BC of the triangle then the triangle ABC is : **1**

a) Isosceles b) Obtuse Angled

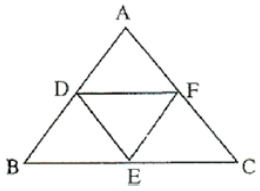
c) Equilateral d) Scalene

19. It is not possible to construct a triangle when its sides are: **1**

a) 6 cm, 7 cm, 7 cm b) 3 cm, 5 cm, 5 cm

c) 8.3 cm, 3.4 cm, 6.1 cm d) 5.4 cm, 2.3 cm, 3.1 cm

20. D, E and F are the mid points of sides AB, BC and CA of ΔABC. If perimetre of ΔABC is 16 cm, then perimetre of ΔDEF. **1**



a) 32 cm b) 8 cm

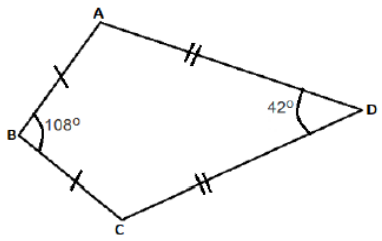
c) NONE OF THESE d) 4 cm

21. For any $\triangle ABC$, AB + BC is always: **1**

a) None of these b) Greater than AC

c) Less Than AC d) Equal to AC

22. In figure, ABCD is a quadrilateral in which AB = BC and AD = DC. The measure of $\angle BCD$ is: **1**



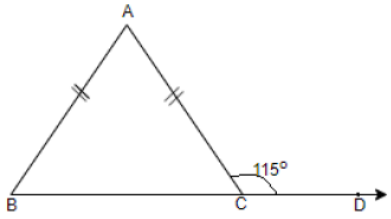
a) 30^o b) 105^o

c) 150^o d) 72^o

23. In $\triangle AOC$ and $\triangle XYZ$, $\angle A = \angle X$, AO = XY, AC = XZ, then by which congruence rule $\triangle AOC \cong \triangle XYZ$? **1**

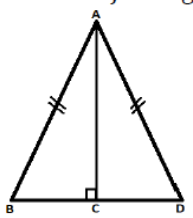
a) SSS
b) SAS
c) RHS.
d) ASA

24. In the adjoining figure, AB = AC. If $\angle ACD = 115^\circ$, then the measure of $\angle A$ is **1**



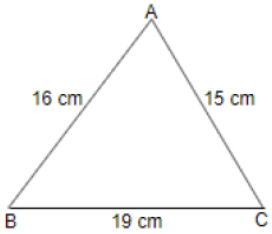
a) 70°
b) 57.5°
c) 50°
d) 65°

25. In the adjoining figure, AB = AC and AD⊥BC. The rule by which $\triangle ABD \cong \triangle ACD$is **1**



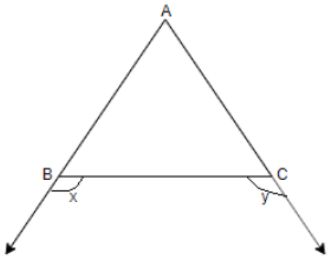
a) RHS
b) ASA
c) SAS
d) SSS

26. In fig. which of the following statement is true? **1**



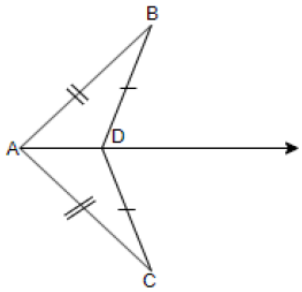
a) $\angle A$ is the smallest angle in the triangle.
b) $\angle B$ is the greatest angle in the triangle
c) $\angle B$ is the smallest angle in the triangle
d) $\angle B = \angle C$

27. In the given figure, ABC is an equilateral triangle. The value of x + y is **1**



a) 200°
b) 240°
c) 120°
d) 180°

28. In fig., $\triangle ABD \cong \triangle ACD$, AB = AC, BD = DC name the criteria by which the triangles are congruent: **1**



a) ASA
b) RHS
c) SSS
d) SAS

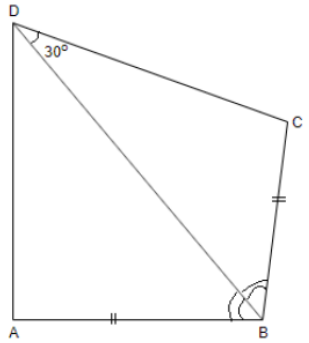
29. If $\triangle ABC \cong \Delta$PQR by SSS congruence rule, then: **1**

a) AC = QR
b) BC = PQ
c) AC = PQ
d) BC = QR

30. In $\triangle ABC$, if $\angle A = 45^\circ$ and $\angle B = 70^\circ$, then the shortest and the longest sides of the triangle are respectively, **1**

a) BC,AB
b) AB,BC
c) BC,AC
d) AB,AC

31. In the adjoining figure, AB = BC and $\angle ABD = \angle CBD$, then another angle which measures 30° is **1**

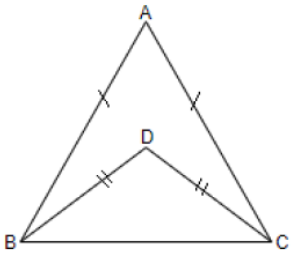


a) $\angle BCA$
b) $\angle BCD$
c) $\angle BDA$
d) $\angle BAD$

32. If triangle PQR is right angled at Q, then **1**

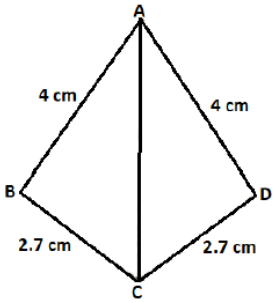
a) PR > PQ
b) PR < QR
c) PR = PQ
d) PR < PQ

33. In the adjoining Figure, AB = AC and BD = CD. The ratio $\angle ABD : \angle ACD$ is **1**



a) It is 1 : 1
b) It is 1 : 2
c) It is 2 : 3
d) It is 2 : 1

34. In the adjoining figure, the rule by which $\triangle ABC \cong \triangle ADC$ **1**

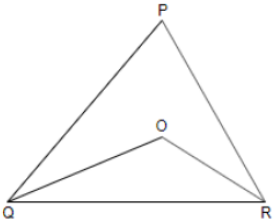


a) SAS
b) SSS
c) AAS
d) RHS

35. In $\triangle ABC$ and $\triangle PQR$, three equality relations between corresponding parts are as follows: AB = QP, $\angle B = \angle P$, BC = PR. State which of the congruence criterion applies in this case: **1**

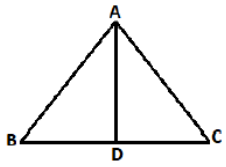
a) SSS
b) AAS
c) SAS
d) ASA

36. In the adjoining figure, PQ > PR. If OQ and OR are bisectors of $\angle Q$ and $\angle R$ respectively, then **1**



a) $OQ \leq OR$
b) OQ > OR
c) OQ = OR
d) OQ < OR

37. AD is the median of the triangle. Which of the following is true? **1**

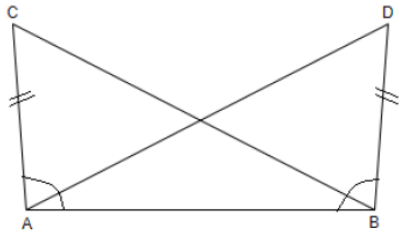


a) AC + CD < AB
b) AB + BD < AC
c) AB + BC + AC > AD
d) AB + BC + AC > 2AD

38. In $\triangle ABC$ and $\triangle PQR$, AB = PR and $\angle A = \angle P$. Then, the two triangles will be congruent by SAS axiom if: **1**

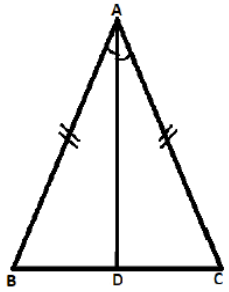
a) BC=QR
b) BC = PQ
c) AC=PQ
d) AC=QR

39. In the adjoining figure, AC = BD. If ∠CAB = ∠DBA, then ∠ACB is equal to **1**



a) ∠ABC
b) ∠BDA
c) ∠ABD
d) ∠BAD

40. In the adjoining figure, AB = AC and AD is bisector of ∠A. The rule by which $\triangle ABD \cong \triangle ACD$ **1**



a) SSS
b) SAS
c) AAS
d) ASA

Science

41. Which one is true about the behaviour of MgO in the presence of water? **1**

a) It is acidic
b) It is basic
c) It is amphoteric
d) It is neutral

42. Identify the incorrect statement(s). **1**

a) Atoms of the same element may have different masses.
b) Atoms of different elements may have same masses.
c) None of these
d) Atoms have been found to be made up of sub-atomic particles.

43. Which of the two statement(s) is/are true? **1**

Statement A : Atomic mass of an element is not its actual mass but relative mass.
Statement B : With the help of STM, it is possible to take the photograph of some atoms.

a) Both A and B
b) Statement B
c) Statement A
d) Neither A nor B

44. A student puts one big iron nail in a test tube containing solution of copper sulphate. He observed that after sometime **1**

a) the solution turns light green
b) the solution turns colourless
c) the nail is unchanged
d) the solution remains blue in colour

45. Symbol of Iron is :- **1**

a) Ir
b) Fe
c) None of these
d) I

46. SO is **1**

a) acidic
b) amphoteric
c) basic
d) neutral

47. Sample of water from a well is analysed. What will be the ratio of hydrogen and oxygen in it by mass? **1**

a) 1:8
b) 8:1
c) 2:16
d) 1:8 or 2:16

48. Which is not observed when zinc granules are added to dilute sulphuric acid in a test tube? **1**

a) Bubbles of gas escaping from the tube
b) Gradual decrease in the size of the granules
c) Precipitate at the bottom of the tube
d) Heat energy evolved in the reaction

49. Which of the following elements are present in Quick lime? **1**

a) Sodium, Hydrogen, Oxygen
b) Calcium chloride
c) Calcium, Bromine
d) Calcium, Oxygen

50. SO is **1**

a) both (oxidising agent) and (reducing agent)
b) reducing agent
c) oxidising agent
d) chemical agent

51. Mosses are **1**

a) Monoecious
b) Both Monoecious and Dioecious
c) Dioecious
d) None of these

52. Hyphae are found in **1**

a) Both Algae and Fungi
b) Lichens
c) Fungi
d) Algae

53. Amoeba, paramecium are examples of organism from which kingdom? **1**

a) Monera
b) Fungi
c) Protista
d) Plantae

54. Corals are **1**

a) Poriferans present at the sea bed
b) Cnidarians that live in colonies
c) Poriferans attached to some solid support
d) Cnidarians, that are solitary living

55. Some students want to prepare a temporary mount of spirogyra. Where should they search for a fresh specimen? **1**

a) In a stream of running salty water
b) In a pond of a salty water
c) In a pond of stagnant dirty water
d) In a stream of running fresh water

56. Phylum possessing jointed appendages or legs is **1**

a) Porifera
b) Arthropoda
c) Mammals
d) Annelida

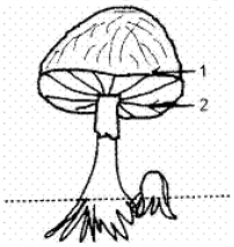
57. The lowest category of classification is **1**

a) Order
b) Family
c) Species
d) Genus

58. Which of the following is a monocot? **1**

a) Mango
b) Mustard
c) Carrot
d) Wheat

59. What are [1] and [2] in the given diagram? **1**



a) Gills and annulus
b) Pileus and stipe
c) Stipe and annulus
d) Pileus and gills

60. Pteridopyta do not have **1**

a) stem b) flowers
c) leaves d) root

61. A plant is diploid and well adapted to extreme conditions. They grow bearing sporophylls in compact structures called cones. Identify the group to which it belongs : **1**

a) Pteridophyta b) Bryophyta
c) Angiopserms d) Gymnosperms

62. Monocots and Dicots are the features of **1**

a) Gymnosperms b) Bryophytes
c) Angiosperms d) Pteridophytes

63. Which of the following organisms is not classified as plants? **1**

a) Angiosperms b) Algae
c) Ferns d) Mushroom

64. Well-defined nucleus is absent in **1**

a) algae b) yeast
c) blue green algae d) diatoms

65. Which of the following is common among plants and animals? **1**

a) Both are prokaryotic b) Both are autotrophic
c) Both are eukaryotic d) Both are heterotrophic

66. While determining the density of the material of metallic sphere using a spring balance and measuring cylinder a student noted the following readings. **1**

1. Mass of the sphere = 81g
2. i. Reading of water level in the cylinder without sphere = 54 mL
   ii. Reading of water level in the cylinder with sphere = 63 mL
3. On the basis of these observations the density of the material of the sphere is :

a) 9000 kg m^{-3} b) 6000 kg m^{-3}
c) 7000 kg m^{-3} d) 1500 kg m^{-3}

67. In vacuum all freely falling objects **1**

a) have the same acceleration b) have the same velocity
c) have the same speed d) have the same force

68. The mass of body is 10 kg at a place where g = 10 m/s2, its weight is **1**

a) 100 N b) 1000 N
c) 10 N d) 1 N

69. The least value of apparent weight of a body in a fluid is **1**

a) = 0 b) depends on the density of solid and fluid
c) < 0 d) > 0

70. Which of the statements is correct? **1**

a) Mass is constant and weight is variable b) Both Mass and weight are variable.
c) Mass is variable and weight is constant. d) Both Mass and weight are constant.

71. Two bodies, one held 1 m vertically above the other, are released simultaneously and fall freely under gravity. After 2 second, the relative separation of the bodies will be **1**

a) 4.9 m b) 19.6 m
c) 9.8 m d) 1 m

72. A heavier and a lighter body have equal momentum, then **1**

a) heavier will have more K.E. b) lighter will have more K.E.
c) they will have equal K.E. d) K.E. will be independent of momentum

73. While determining the density of a copper piece using a spring balance and a measuring cylinder, Seema carried out the following procedure. **1**

i. Noted the water level in the measuring cylinder without the copper piece.
ii. Immersed copper piece in water
iii. Noted the water level in the measuring cylinder
iv. Removed the copper piece from the water and immediately weighted it using a spring balance.

The wrong step in the procedure is :

a) (iv) b) (ii)
c) (iii) d) (i)

74. A student noted down following observations in his note book.(1) Weight of the stone in air = 272 g wt(2) Weight of the stone in water = 192 g wt(3) Weight of the stone in salty water = 176 g wt.The relative density of the salty water must be : **1**

a) $\frac{11}{12}$ b) $\frac{13}{17}$
c) $\frac{6}{5}$ d) $\frac{11}{17}$

75. The ratio of weight to mass of the body is _____. **1**

a) zero b) 9.8
c) 1.0 d) 10

76. As the contact area between two objects increases the pressure _____ **1**

a) decreases b) remains constant
c) increases d) zero

77. The weight of an object at the center of the earth of radius R is **1**

a) $\frac{1}{R^2}$ times the weight at surface of the earth b) zero
c) infinite d) R times the weight at the surface of the earth

78. The value of quantity G in the law of gravitation **1**

a) is independent of mass and radius of the earth b) depends on both mass and radius of the earth
c) depends on mass of the earth only d) depends on radius of the earth only

79. A girl stands on a box having 60 cm length, 40 cm breadth and 20 cm width in three ways. In which of the following cases, pressure exerted by the brick will be **1**

a) maximum when width and length from the base b) maximum when length and breadth from the base
c) maximum when breadth and width from the base d) the same in all the above three cases

80. A student lowers a body in a liquid filled in a container. He finds that there is a maximum apparent loss in weight of the body when: **1**

a) it is partially immersed and also touches the sides of the container. b) it is partially immersed in the liquid
c) it just touches the surface of the liquid d) it is completely immersed in the liquid

Social Science

81. A war veterans' organisation was called:

a) German Ruhr b) Gestapo
c) Free Corps d) Berlin Soldiers

82. The most infamous film made on Jews was:

a) Schindler's List b) The Eternal Jew
c) Where Eagles Dare d) Jews the Undesirable

83. The term 'Genocidal' means:

a) A kind of poison that Helmuth feared b) Suicide by the soldiers
c) Killing on a large-scale leading to the destruction of a large section of people d) Suicide by Hitler's officers

84. Nationalist Socialist German Workers' Party was renamed as:

a) Nazi Party b) Communist Party
c) Workers' Party d) Socialist Party

85. The 'Secret State Police' was called:

a) Security Service b) The Protection Squad
c) Gestapo d) Patriots

86. What is ITCZ ?

a) Inter Tropical Converter Zone
b) India Tropical Convergence Zone
c) Inter Tropic Converge Zonal
d) Inter Tropical Convergence Zone

87. What is the duration of cold weather season of India ?

a) Mid November - February
b) Mid January – February
c) Mid October – February
d) Mid December - January

88. The term ENSO is referred to:

a) El Nino Southern Onset
b) El Nino Southern Oscillations
c) None of these
d) El Nino Southern Oscillation

89. Which of the following are two coldest months in the northern part of India ?

a) December, January
b) March, April
c) January, March
d) April, May

90. Monsoonsalways blow from _____ regions.

a) warm to very warm
b) cold to warm
c) warm to cold
d) cold to very cold

91. Which of the following is not a climatic condition of the cold weather season of India ?

a) Clear sky
b) Low humidity
c) High rainfall
d) Low temperature

92. The periodic change in pressure conditions over the pacific and Indian Ocean is reffered as .....

a) Western Oscillation
b) Southern Oscillation
c) Northern Oscillation
d) Eastern Oscillation

93. Which winds prevail in India during rainy season ?

a) East – West monsoon
b) South – West monsoon
c) Permanent winds
d) North – West monsoon

94. Which of the following crop is benefited because of winter cyclonic disturbances ?

a) None of these
b) Rabi crops
c) Kharif crops
d) Zaid crops

95. Which of the following is not part of seasons of India ?

a) The cold weather season
b) The hot weather season
c) The spring season
d) The advancing monsoon season

96. Who appoints the Chief Election Commissioner of India ?

a) The Council of Minister
b) The President of India
c) The Governor
d) The Prime Minister of India

97. Which of the following statements about the reasons for conducting elections are false ?

a) Elections enable people to judge the performance of the government.
b) People select the representative of their choice in an election.
c) People can indicate which policies they prefer.
d) Elections enable people to evaluate the performance of judiciary.

98. 'Our Constitution makers thought of a special system of reserved constituencies. Which of the following is/are true with reference to this ?

A. They were worried that in an open electoral system of reserved constituencies certain weaker sections may not stand a good chance to get elected to the Lok Sabha and the state Legislative Assemblies.

B. The reservation was based on the economic development of the constituency.

a) A is false but B is true
b) A is true but B is false
c) Both A and B are true
d) Both A and B are false

99. Supporters or hired musclemen of party or a candidate gain physical control of a polling booth and cast false votes by threatening everyone or by preventing genuine voters form reaching the polling booth. Choose the appropriate word –

a) Rigging
b) Incumbent
c) Booth Capturing
d) Trunout

100. Which of the following party gave a slogan Nyaya yudh in 1987 ?

a) BJP
b) Lok Dal
c) SP
d) Indian National Congress

101. Who invites to the leader of the majority party to form the state government after the State Assembly elections ?

a) Governor
b) President
c) Chief Minister
d) Prime Minister

102. Which of the following is right expansion of the word MLA ?

a) Member of Legislative Assembly
b) Member of Legislative Assembly
c) Member of Legal Assembly
d) Minister of Legal Assembly

103. Read the statement and choose the appropriate word- Elections is held only for one Constituency to fill the vacancy caused by death or resignation by a member.

a) Mid term elections
b) By election
c) General elections
d) Assembly elections

104. When was the Constitution of India completed or adopted?

a) 26 October, 1949
b) 26 January, 1950
c) 26 November,1949
d) 17 December,1947

105. Which of these was the most salient underlying conflict in the making of a democratic constitution in South Africa?

a) Between the white minority and the black majority
b) Between the colored minority and the black majority
c) Between men and women
d) Between South Africa and its neighbors.

106. A form of government where people enjoy equal political rights is:

a) Dictatorial
b) Socialist
c) Autocratic
d) Democratic

107. How many members were there in the Constituent Assembly that wrote the Indian Constitution?

a) 101 members
b) 206 members
c) 299 members
d) 36 members

108. The Chairman of the drafting committee was:

a) Dr. Rajendra Prasad
b) Dr. B.R. Ambedkar
c) Mahatma Gandhi
d) Pt. Jawaharlal Nehru

109. Which of these is a provision that a democratic constitution does not have?

a) Name of the head of the state
b) Powers of the legislature
c) Name of the country
d) Powers of the head of the state

110. Nelson Mandela remained in prison for treason for about:

a) 26 years
b) 20 years
c) 28 years
d) 25 years

111. Quarrying and mining are included in the:

a) Government sector
b) Secondary sector
c) Tertiary sector
d) Primary sector

112. The full form of GNP is:

a) Gross National Performance
b) Green National Project
c) Gross National Product
d) Green Nation People

113. Which work, done mostly by woman, is not considered in the National Income?

a) Household work
b) Work done in a private company
c) Teaching work in schools.
d) Own business work.

114. When people appear to be employed, this kind of unemployment is called:

a) Seasonal unemployment
b) Disguised unemployment
c) Educated unemployment
d) All of these

115. Probability of certain communities of becoming or remaining poor in coming years is called.....

a) Exclusion
b) Vulnerability
c) Inter state disparities
d) Service

116. What is the situation called when there is surplus of manpower in certain categories and shortage of manpower in other categories.

a) Non market activity
b) Paradoxical manpower situation
c) Market activity
d) Seasonal unemployment

117. In the secondary sector which of the following is the most labour absorbing ?

a) Mining
b) Quarrying
c) Trade
d) Small scale manufacturing

118. Which one of these is the most labour absorbing sector of the economy?

a) Transportation
b) Agriculture
c) Service
d) Industries

119. When people appear to be employed but are actually not employed fully, this kind of unemployment is called:

a) Disguised Unemployment
b) Educated unemployment
c) All of the above
d) Seasonal unemployment

120. 'SarvaShikshaAbhiyan' is a significant step towards providing education to all children in the age group:

a) 6-14 years
b) 5-10 years
c) 10-15 years
d) 5-14 years

Solution

Class 09 - Mathematics

Multiple Choice Examination (October-2019)

Section A

1. (b) BC

   Explanation:
   Since the sum of all sides of a triangle is 180°.
   So, angle C=70° ,angle B=30°,angle A=80°.
   We have a theorem which states that the side opposite to the greatest angle is the longest.
   So, the side opposite to angle A is the longest.

2. (d)
   $\triangle ABD \cong \triangle FEC$

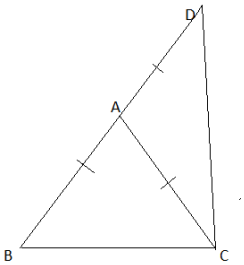
   Explanation:
   Given:
   AB = FE, BC = ED,
   AB $\perp$ BE and FE $\perp$ BE
   To Prove: AD = FC
   Proof: In $\triangle$ABD and $\triangle$FEC,
   AB = FE ...(1) (Given)
   $\angle$ABD = $\angle$FEC ...(2)
   Each = 90^o
   BC = ED (Given)
   $\Rightarrow$ BC + CD = ED + DC
   $\Rightarrow$ BD = EC ...(3)
   In view of (1), (2) and (3),
   $\triangle$ABD $\cong$ $\triangle$FEC using SAS congruence rule

3. (a)
   CA = RP

   Explanation:
   Corresponding sides are equal for two congruent triangles.

4. (b)
   90^o

   Explanation:

   Given in $\triangle$ABC, AB = AC
   $\Rightarrow$ $\angle$ABC = $\angle$ACB (Since angles opposite to equal sides are equal)
   Also given that AD = AB
   $\Rightarrow$ $\angle$ADC = $\angle$ACD (Since angles opposite to equal sides are equal)
   $\therefore$ $\angle$ABC = $\angle$ACB = $\angle$ADC = $\angle$ACD = x(AB = AC = AD)
   Also,$\angle$BCD = A$\angle$CB + $\angle$C$\angle$D = x + x = 2x
   In $\triangle$BCD, $\angle$CBD + BC$\angle$D + $\angle$BDC = 180^o

x + 2x + x = 180^o

4x = 180^o

x = 45^o

$\angle$BCD = 2x = 90^o

5. (b)
RHS

Explanation:
In $\triangle$ ABC and $\triangle \angle\ BAC\ = \angle\ ABD$
BAD, we have (Right angles)
BC = AD (Hypotentuses and Given)
AB = AB (common in both)
Hence, $\triangle ABC \cong \triangle BAD$ by RHS criterion.

6. (c)
16 cm

Explanation:
In triangles $\triangle DNR$ and $\triangle BMR$,
$\angle$N = $\angle$M = 90^o
$\angle$NRD = $\angle$MRB (vertically opposite angles)
BM = DN(Given)
Therefore, $\triangle DNR$ and $\triangle MRB$ are congruent
Therefore, BR = DR = 8 cm
BD = 16 cm

7. (d)
All are true

Explanation:
In $\triangle$AOB and $\triangle$DOC
$\angle$OAB = $\angle$ODC (alternate interior angles)
$\angle$OBA=$\angle$OCD
OB = OC (given)
So, from ASA congruence ,we have
$\triangle$AOB $\cong$ $\triangle$DOC
Now, from CPCT ,we have
AB = CD
OA = OD which means O is the mid-point of AD.
Hence ,all the given statements are true.

8. (c)
PQ

Explanation:
In $\triangle PQR, \angle P = 60^\circ, \angle Q = 50^\circ$
Now , by angle sum property , $\angle\ P\ + \angle\ Q\ + \angle\ R\ = 180^\circ$
60^o + 50^o + $\angle\ R$ = 180^o
or, $\angle\ R$ = 180^o - 110^o = 70^o
So, $\angle\ R$ is the largest angle and the side opposite to it ,i.e, PQ will be the longest side.

9. (d)
AB > AD

Explanation:

Angle D = angle C (As AC = AD)
and angle C > angle B and angle D > angle B
hence AB > AD

10. (d) 13 cm
Explanation:
As per the rule in a triangle, sum of any 2 sides should be greater than the third side. So, the lenght of the third side should be 13, Since with 7,10 and 13 we have
7+10>13,7+13>10 and 13+10>7

11. (d)
SAS

Explanation:
In $\triangle$DBC and $\triangle$AEF, we have
AB = FC (given)by adding BF on both sides
AF= CB
$\angle$AFE = $\angle$CBD (given)
EF = BD (given)
Hence, $\triangle AFE \cong \triangle CBD$ by SAS as the corresponding sides and their included angles are equal.

12. (d)
AC

Explanation:
Side opposite to smallest angle is shortest side angles of triangle are 35,60 and 85

13. (c)
130^o

Explanation:
Triangle ABC is an iscosceles triangle and hence in the triangle other two angles are 50 and 50
Therefore,
X = 180 - 50 = 130

14. (d)
55°

Explanation:
Since, It is given that AB = AC, then $\angle$B = $\angle$C (Isosceles triangle property)
Given $\angle A = 70^o$, Let angle B and C be x^o
Sum of all the three angles of triangle = 180^o, therefore $\angle A + \angle B + \angle C = 180^o$
70 + x + x = 180
$x = 55^o$
$\angle C = 55^o$

15. (d)
AB

Explanation:
By angle sum property,we have,
$\angle A + \angle B + \angle C = 180^o$
$=> 50^o + 60^o + \angle C = 180^o$
$=> \angle C = 180^o - (50^o + 60^o) = 70^o$
Therefore, $\angle$C is the largest angle in the triangle and the side opposite to it i.e. AB is the longest side

16. (d)

DF is the longest side

Explanation:
In a triangle, only one right angle is possible, hence it is the greatest angle and the side opposite to it is the longest side. Here, the side opposite to $\angle E$ is DF,hence,it is the longest side.

17. (b)
110° and 110°

Explanation:
The two equal angles are 70 since angle C =180 - 140 = 40 X = Y = 180 - 70 = 110

18. (c)
Equilateral

Explanation:
Angle bisector is perpendicular to the opposite side only in equilateral triangle

19. (d)
5.4 cm, 2.3 cm, 3.1 cm

Explanation:
In a triangle, the sum of any two sides must be greater than the third side and here 2.3 + 3.1 = 5.4 and hence, the triangle is not possible with the given measurements.

20. (b)
8 cm

Explanation:
Using relation
$perimeter.\Delta DEF = \frac{1}{2}perimeter.\Delta ABC$
$= \frac{1}{2} \times 16 = 8cm$

21. (b)
Greater than AC

Explanation:
Sum of any two sides is greater than third side

22. (b)
105^o

Explanation:
Join AC. We get two isosceles triangles,Δ ABC and Δ ACD
In Δ ABC,$\angle$ABC= 108^o
$\therefore \angle$BAC = $\angle$BCA = (180^o - 108^o) / 2 = $\frac{72^\circ}{2}$ = 36^o
In Δ ACD,$\angle$ADC= 42^o
$\therefore \angle$DAC = $\angle$DCA = (180^o - 42^o) / 2 = 138^o/2 = 69^o
Now, $\angle$ BCD = $\angle$BCA + $\angle$DCA = 36^o + 69^o = 105^o

23. (b)
SAS

Explanation:
According to SAS criterion, if the corresponding sides and their included angles are equal, then the triangles are congruent. Here, in $\triangle AOC$ and $\triangle XYZ$, AO = XY,and AC = XZ are the corresponding sides and $\angle A = \angle X$ are included angles, Hence,$\triangle AOC \cong \triangle XYZ$, by SAS.

24. (c)
50°

Explanation:

$\angle$ACD = 115^o, $\angle$ACB = 180 - 115 = 65^o (Linear Pair)
Since, It is given that AB = AC, then $\angle$ABC = $\angle$ACB (Isosceles trangle property)

As $\angle$ACB = 65^o, therefore $\angle$ABC = 65^o

Sum of all the three angles of triangle = 180°, therefore $\angle$ABC + $\angle$ACB + $\angle$A = 180^o

$\angle$A = 180 - 65 - 65 = 50^o

25. (a)
RHS

Explanation:
In $\triangle$ABD and $\triangle$ADC, we have,
$\angle$ADB = $\angle$ADC (Right angles)
AB = AC (Given and hyptenuses)
AD = AD (common in both)
Therefore,$\triangle ABD \cong \triangle ACD$ by RHS.

26. (c)
$\angle B$ is the smallest angle in the triangle

Explanation:
In a triangle angle opposite to smallest side is least AC is least side and hence B is smaller

27. (b)
240°

Explanation:

As triangle ABC is an equilateral traingle, therefore all the three angles are equal, that is , 60^o each.

x = 180 - 60 = 120^o

y = 180 - 60 = 120^o
x + y = 120 + 120 = 240

28. (c)
SSS

Explanation:
Given that two sides are equal and third side is common I.e AD hence all three corresponding sides are equal

29. (d)
BC = QR

Explanation:
If $\triangle ABC \cong \Delta$PQR by SSS congruence rule, then the correspondig sides must be equal i.e AB=PQ ,BC=QR and AC=PR

30. (c)
BC,AC

Explanation:
Smallest angle is A and greatest angle is B and hence sides opposite to these angles are BC and AC and they are shortest and longest respectively

31. (c)
$\angle$BDA

Explanation:
In triangle ABD and CBD
AB = BC and $\angle$ABD = $\angle$CBD (Given)
BD (Common)
Therefore In triangle ABD and CBD are congruent by SAS criteria.
Therefore, $\angle$BDA = 30^0 (by CPCT)

32. (a) PR > PQ
Explanation:
then the hypotnuse should be always greater than the remaining two sides.

33. (a)
It is 1 : 1

Explanation:
In $\triangle$ABC
AB = AC
$\therefore$ $\angle$ABC = $\angle$ACB(angles opposite to equal sides of a triangle are equal).....1
in ΔDBC,
DB = DC,
$\therefore$ $\angle$DBC = $\angle$DCB(angles opposite to equal sides of a triangle are equal).....2
subtract 2 from 1
$\angle$ABC - $\angle$DBC = $\angle$ACB - $\angle$DCB(equals subtracted from equals gives equal)
= $\angle$ABD = $\angle$ACD
divide both the sides by $\angle$ACD
$\Rightarrow \frac{\angle ABD}{\angle ACD}$ = 1
$\therefore$ $\angle$ABD : $\angle$ACD = 1 : 1

34. (b)
SSS

Explanation:
In $\triangle$ABC and $\triangle$ADC,we have,
AB = AD (4cm)
BC = DC (2.7 cm)
AC = AC (commom in both)
Hence ,$\triangle ABC \cong \triangle ADC$, by SSS criterion.

35. (c)
SAS

Explanation:
Two sides and included angle are equal and is SAS axiom

36. (b)
OQ > OR

Explanation:
Since PQ > PR then $\angle$R > $\angle$Q and hence their bisectors follow the same I.e $\frac{R}{2}$> $\frac{Q}{2}$ and hence OQ>OR

37. (d)
AB + BC + AC > 2AD

Explanation:
In triangle ADB
AB + BD > AD

In triangle ADC
AC+DC > AD
Adding both
AB + AC + BD + DC > 2AD
Now BD + DC = BC
So, AB + AC + BC > 2AD

38. (c)
AC=PQ

Explanation:
$\angle A$ is included between AB and AC and $\angle P$ is included between PQ and PR and corresponding sides must be equal . Since AB = PR, hence AC=PQ for the given triangles to be congruent by SAS axiom.

39. (b)
$\angle$BDA

Explanation:
In Triangle CAB and traingle DBA,
AC = BD and $\angle$CAB = $\angle$DBA (Given)
AB (Common)
Therefore, Triangle CAB and traingle DBA are congruent by SAS criteria
Therefore, $\angle$ACB = $\angle$BDA (by CPCT)

40. (b)
SAS

Explanation:
In $\triangle$ABD and $\triangle$ADC, we have
AB = AC (Given)
$\angle$BAD = $\angle$DAC (Since AD, bisects $\angle$A)
AD = AD (common in both)
Hence, $\triangle ABD \cong \triangle ACD$ by SAS

Solution

Class 09 - Science

MCQ TEST

Section A

41. (b)
It is basic

Explanation:
Magnesium oxide(MgO) is a base and not an acid. Magnesium is a metal and like most of the metals, it form basic oxides. When magnesium oxide reacts with water the following reaction takes place:
$MgO + H_2O(l) \rightarrow Mg(OH)_2$

42. (c)
None of these

Explanation:
Atoms of different elements may have same masses. E.g. Argon and Calcium.
Atoms of same element may have different masses as in the case of isotopes.
Atoms are made up of sub-atomic particles - electron, proton and neutron.
All the statements are correct.

43. (a)
Both A and B

Explanation:
Atomic mass of an element is not its actual mass but relative mass compared to the mass of a carbon-12 atom.
Photographs of some atoms can be taken by using a STM (Scanning Tunneling Microscope). The scanning tunneling microscope (STM) is a type of electron microscope that shows three-dimensional images of a sample. In the STM, the structure of a surface is studied using a stylus that scans the surface at a fixed distance from it.

44. (a)
the solution turns light green

Explanation:
$Fe(s) + CuSO_4(aq) \rightarrow Cu(s) + FeSO_4(aq)$
When an iron nail is dipped in copper sulphate solution, a brown coating of copper is formed on the surface of iron and the colour of copper sulphate solution changes from blue to light green.

45. (b)
Fe

Explanation:
Symbol "Fe" for Iron has been derived from the Latin word "Ferrum".

46. (a)
acidic

Explanation:
Molecules whose Lewis structures indicate an atom to have an octet as a result of the formation of one or more multiple bonds will often function as Lewis acids. Examples are CO_2, SO_3, SO_2.
SO_3 is acidic in nature as it is non-metallic oxide.

47. (d)

1:8 or 2:16

Explanation:
The atomic mass of Hydrogen is 1 u and that of Oxygen is 16 u. The formula of water is H_2O. Hence, the ratio of Hydrogen and Oxygen by mass in water will be 2:16 or 1:8. The ratio will be the same irrespective of the source of the water.

48. (c)
Precipitate at the bottom of the tube

Explanation:
Zn reacts with dil. H_2SO_4 to form ZnS . Zinc reacts with dil.H_2SO_4 to form zinc sulphate and evolve hydrogen gas.
$Zn(s) + H_2SO_4 \rightarrow ZnSO_4(aq) + H_2(g)$
No precipitate is formed at the bottom.
This reaction is exothermic and hence heat is evolved in the reaction.

49. (d)
Calcium, Oxygen

Explanation:
The chemical formula of Quick lime is CaO. So, Calcium (Ca) and Oxygen (O) elements are present in Quick lime.

50. (c)
oxidising agent

Explanation:
SO_3 is sulphur trioxide. In this S is in +6 oxidation state which is its highest oxidation state. So it can not be further oxidized. So it acts as strong oxidizing agent and due to this SO_3 itself reduced and oxidise other compound.

51. (b)
Both Monoecious and Dioecious

Explanation:
Mosses can be either monoecious (both sexes on same plant body) or dioecious (both sexes on different plant bodies.)

52. (c)
Fungi

Explanation:
The mycelium is made up of filaments called hyphae found in fungi.A hyphae consists of one or more cells surrounded by a tubular cell wall. In most fungi, hyphae are divided into cells by internal cross-walls called "septa" (singular septum). Septa are usually perforated by pores large enough for ribosomes, mitochondria and sometimes nuclei to flow between cells.

53. (c) Protista
Explanation:
Amoeba and paramecium are the monerans with single celled body. They have very simple habit and habitat and all metabolic activities are performed within the cell with the help of water current.

54. (b)
Cnidarians that live in colonies

Explanation:

corals live in colony for many generations in their identical polyp phase and create a large skeleton of calcium carbonate. This is the characteristic feature of corals. They have formed coral reefs over millions of years in tropical ocean near equator.

55. (c)
In a pond of stagnant dirty water

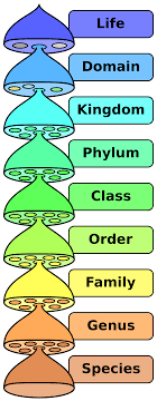
Explanation:
The filaments of spirogyra make a green tangled mat on the surface of ponds. Algae are generally found in stagnant water bodies like ponds.

56. (b)
Arthropoda

Explanation:
Phylum Arthropoda Arthrd means 'jointed' and 'pod' means 'legs'. Thus, organisms belonging to phylum Arthropoda have jointed appendages. Arthropods can be distinguished from other kind of non-chordates because arthropods are the only animals with jointed appendages (legs and antennae).

57. (c)
Species

Explanation:
Species is the lowest category of organisms. Every organism can be classified as 7 different levels- kingdom, phylum, class, order, family, genus, and species.



Each level contains organisms with similar characteristics. The kingdom is the largest group and very broad. Each successive group contains fewer organisms, but the organisms are more similar. The species is the smallest group and is very narrow. Organisms within a species are able to mate and produce fertile offspring.

58. (d) Wheat
Explanation:
Wheat has leaves with parallel venation which is a characteristic feature of monocots and it has leaf sheath which covers the stem.

59. (d)
Pileus and gills

Explanation:
Inverted umbrella is known as pileus and the slits on the inverted side is known as gills.

60. (b)
flowers

Explanation:
Pteridophytes are the ancient plants which bear spores and reproduce with the help of wind. They do not bear flowers as flowers are needed to perform sexual reproduction which is not a characteristic of pteridophytes.

61. (d) Gymnosperms
Explanation:
Gymnosperms are the just primitive to angiosperms and these are non flowering plants. They reproduce by forming male and female cones as their reproductive organs.

62. (c) Angiosperms
Explanation:
Angiosperms are seed bearing plants and they bear two types of seeds. Seeds having single cotyledon- monocots, seeds having two cotyledons- dicots.

63. (d)
Mushroom

Explanation:
Mushroom is a member of kingdom fungi and it feeds on dead and decaying organic matter.

24. (c)
blue green algae

Explanation:
Blue green algae is a category of bacteria which can perform photosynthesis and is a prokaryotic organism. It's called cyanobacteria and belongs to the phylum monera. It does not have a well defined nucleus, It has a nucleoid.

65. (c)
Both are eukaryotic

Explanation:
Both plants and animals have well defined nucleus and cell organelles i.e. both are eukaryotic.

66. (a)
9000 kg m^{-3}

Explanation:
Density = $\frac{Mass}{volume} = \frac{81}{63-54} = \frac{81}{9} = 9\ g/cm^3$
= 9000 kg m^{-3}

67. (a) have the same acceleration
Explanation:
Air is absent in vacuum so no change will take place in acceleration to a freely falling body irrespective of their nature or mass

68. (a)
100 N

Explanation:
Weight = Mg = 10 × 10 = 100 N

69. (a)
= 0

Explanation:
When a body floats in a liquid, upthrust acting on the body is equal to the weight of the body in accordance to the law of flotation. That is, the weight of the body is balanced by the upthrust. So, the apparent weight of the body is zero as the net force acting on the body is zero.

70. (a)
Mass is constant and weight is variable

Explanation:

Mass is an independent quantity but weight is dependent on gravity.As the gravity changes, weight also change.

71. (d)
1 m

Explanation:
Relative positions remain constant irrespective of the distance travelled and time taken during free fall.

72. (b)
lighter will have more K.E.

Explanation:
lighter body will have more K.E because kinetic energy is inversely proportional to the mass of body.

73. (a)
(iv)

Explanation:
Water drops left out will show more weight.

74. (c)
$\frac{6}{5}$

Explanation:
Relative density of salty water = $\frac{loss\ of\ weight\ in\ salty\ water}{loss\ of\ weight\ in\ water} = \frac{272-176}{272-192} = \frac{96}{80} = \frac{6}{5}$

35. (b) 9.8
Explanation:
W = m x g = m x 9.8
$\frac{W}{m}$ = 9.8

76. (a) decreases
Explanation:
In the case of contact forces between two objects as the area of contact between the two increases the pressure per square unit of measure will decrease.

77. (b) zero
Explanation:
The weight of the object is zero
Because weight = mg
And r = 0 so g = zero at the center of earth
Then w = zero

78. (a) is independent of mass and radius of the earth
Explanation:
The value of g is independent of the mass of the object and only dependent upon location - the planet the object is on and the distance from the center of that planet.

79. (c) maximum when breadth and width from the base
Explanation:
Now, according to question, when base is formed by breadth and width. Area will be minimum. And so, pressure will be maximum.

80. (d)
it is completely immersed in the liquid

Explanation:

When a solid is completely immersed in the liquid, there is maximum apparent loss in its weight due to maximum volume of liquid displaced.

Solution

Class 09 - Social Science

Multiple Choice Examination (October-2019)

Section A

81. (c) Free Corps
Explanation:
The Weimar Republic crushed the uprising with the help of a war veterans organisation called Free Corps.

82. (b) The Eternal Jew
Explanation:
The most infamous film was The Eternal Jew.Orthodox Jews were stereotyped and marked.

83. (c) Killing on a large-scale leading to the destruction of a large section of people
Explanation:
Under the shadow of the Second World War, Germany had waged a genocidal war, which resulted in the mass murder of selected groups of innocent civilians of Europe.

84. (a) Nazi Party
Explanation:
Hitler subsequently took over the organisation and renamed it the National Socialist German Workers' Party. This party came to be known as the Nazi Party.

85. (c) Gestapo
Explanation:
Apart from the already existing regular police there was the secret state police called Gestapo

86. (d) Inter Tropical Convergence Zone
Explanation:
ITCZ stands for Inter Tropical Convergence Zone.The Inter Tropical Convergence Zone (ITCZ) is a broad trough of low pressure in equatorial latitudes. This is where the northeast and the southeast trade winds converge.

87. (a) Mid November - February
Explanation:
The cold weather season begins from mid-
November in northern India and stays till
February. December and January are the coldest months in the northern part of India

88. (d) El Nino Southern Oscillation
Explanation:
The changes in pressure conditions are connected to the El Nino. Hence, the phenomenon is referred to as ENSO (El Nino Southern Oscillations).

89. (a) December, January
Explanation:
The cold weather season begins from mid-
November in northern India and stays till
February. December and January are the coldest months in the northern part of India.

90. (b)
cold to warm

Explanation:
A monsoon is a seasonal change in the direction of the prevailing, or strongest, winds of a region.Monsoons are most often associated with the Indian Ocean.Cold winds from high pressure areas blow to the low pressure areas over the oceans in the south which are warm.Thus Monsoons always blow from cold to warm regions.

91. (c) High rainfall
Explanation:
The cold weather is normally marked by clear sky, low temperatures and low humidity and feeble,variable winds.

92. (b) Southern Oscillation
Explanation:
Normally when the tropical eastern south Pacific Ocean experiences high pressure, the tropical eastern Indian Ocean experiences low pressure.But in certain years, there is a reversal in the pressure conditions and the eastern Pacific has lower pressure in comparison to the eastern Indian Ocean. This periodic change in pressure conditions is known as the Southern Oscillation or SO .

93. (b) South – West monsoon
Explanation:
By early June, the low-pressure condition over the northern plains intensifies. It attracts, the trade winds of the southern hemisphere. These south-east trade winds originate over the warm subtropical areas of the southern oceans.They cross the equator and blow in a south-westerly direction entering the Indian peninsula as the south-west monsoon.

94. (b) Rabi crops
Explanation:
The low-pressure systems, originate over the Mediterranean Sea and western Asia and move into India, along with the westerly flow. They cause the much-needed winter rains over the plains and snowfall in the mountains. Although the total amount of winter rainfall locally known as ‘mahawat’ is small, they are of immense importance for the cultivation of ‘rabi’ crops.

95. (c) The spring season
Explanation:
Four main seasons can be identified in India – the cold weather season, the hot weather season, the advancing monsoon and the retreating monsoon with some regional variations.

96. (b) The President of India
Explanation:
The Chief Election Commissioner (CEC) is appointed by the President of India.But once appointed, the Chief Election Commissioner is not answerable to the President or the government

97. (d) Elections enable people to evaluate the performance of judiciary.
Explanation:
Elections enable people to evaluate the performance of the **government**.

98. (b) A is true but B is false
Explanation:
In our country we follow an area based system of representation. The country is divided into different areas for purposes of elections.These areas are called electoral constitutencies.Hence A is true but B is false

99. (c) Booth Capturing
Explanation:
Booth capturing: Supporters or hired musclemen of party or a candidate gain physical control of a polling booth and cast false votes by threatening everyone or by preventing genuine voters from reaching the polling booth.

100. (b) Lok Dal
Explanation:
The State had been ruled by a Congress party led government since 1982. Chaudhary Devi Lal, then an opposition leader, led a movement called ‘Nyaya Yudh’ (Struggle for Justice) and formed a new party, Lok Dal.

101. (a)
Governor

Explanation:

After the State Assembly elections Governor invites to the leader of the majority party to form the state government

102. (a) Member of Legislative Assembly
Explanation:
MLA stands for Member of Legislative Assembly

103. (b)
By election

Explanation:
Sometimes election is held only for one constitutency to fill the vacancy caused by death or resignation of a member. This is called a by-election.

104. (c) 26 November,1949
Explanation:
The Assembly adopted the Constitution on 26 November 1949 but it came into effect on 26 January 1950.

105. (b)
Between the colored minority and the black majority

Explanation:
South Africa's constitution is often regarded as a model for democratic constitution making, embodying both the benefits and challenges of participation.The most salient underlying conflict in the making of a democratic constitution in South Africa was between the colored minority and the black majority

106. (d)
Democratic

Explanation:
Democratic

107 (c) 299 members
Explanation:
The Assembly adopted the Constitution on 26 November 1949 but it came into effect on 26 January 1950.The Constituent Assembly that wrote the Indian constitution had 299 members

108. (b) Dr. B.R. Ambedkar
Explanation:
A Drafting Committee chaired by Dr. B.R. Ambedkar prepared a draft constitution for discussion.

109 (a) Name of the head of the state
Explanation:
Name of the head of the state is not included in the constitution which is democratic

110. (c) 28 years
Explanation:
Nelson Mandelaspent the next 28 years in South Africa's most dreaded prison, Robben Island.

111. (d)
Primary sector

Explanation:
Quarrying and mining are included in the primary sector.

112. (c) Gross National Product
Explanation:
Full form of GNP is Gross National Product.Gross national product is the market value of all the products and services produced in one year by labor and property supplied by the citizens of a country.

113. (a)
Household work

Explanation:
Women are not paid for the services or household work delivered in the family. So, household work is not considered in the National Income.

114. (b) Disguised unemployment
Explanation:
In this situation more people are engaged in work than required. They all appear to be employed. It is also called Hidden unemployment.

115. (b)
Vulnerability

Explanation:
Probability of certain communities of becoming or remaining poor in coming years is called Vulnerability to poverty.

116. (b)
Paradoxical manpower situation

117. (d)
Small scale manufacturing

Explanation:
Small scale manufacturing is the most labour absorbing sector of the secondary sector.

118. (b) Agriculture
Explanation:
Agriculture is the most labor absorbing sector of the economy.

119. (a)
Disguised Unemployment

Explanation:
When people appear to be employed but are actually not employed fully, this kind of unemployment is called **disguised unemployment.**

120. (a) 6-14 years
Explanation:
It aims to provide compulsory and free elementary education to all children between the age 6-14 years.