MISSION – 500 - 2024 – 2025 – TN STATE LEVEL MOCK TEST – 4 - EM

PART – II SCHOLASTIC APTITUDE TEST

MATHEMATICS

91. $^5/_6, -^2/_3, ^3/_2, 0, -^1/_2$ If we write these numbers in ascending order, then the difference between the first number and the last number

(1) $-^{13}/_6$ (2) $^4/_3$ (3) $^{13}/_6$ (4) $^5/_6$

92. $3 \times 3^3 \times 3^2 \times 1^6 \times 5^6 \times (2^3)^2 = ?$

(1) $3^5 \times 10^6$ (2) 30^6 (3) 30^{216} (4) 10^6

93. $\sqrt{54} \div \sqrt{3} \times \sqrt{12} \div \sqrt{6} = ?$

(1) 4 (2) $\sqrt{216}$ (3) $\sqrt{6}$ (4) 6

94. Which of the following statements is wrong?

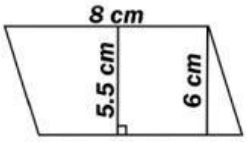
(1) The largest negative integer is -1

(2) The difference between the multiplicative identity of rational numbers and the multiplicative identity of integers is 0

(3) Subtraction of integers does not satisfy the closure property.

(4) All the acute angles are equal in the case of a transversal intersecting two parallel lines.

95. What is the area of the given parallelogram?



(1) 48 cm^2 (2) 33 cm^2

(3) 44 cm^2 (4) 92 cm^2

96. Match the following

i) Parallelogram – a) a^2 sq.units

ii) Trapezium – b) $l \times b$ sq.units

iii) Square – c) $\frac{1}{2} \times b \times h$ sq.units.

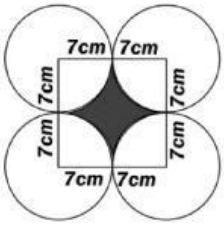
iv) Rectangle - d) $b \times h$ sq.units

v) Rhombus - e) $\frac{1}{2} \times h \times (a + b)$ sq.units

(1) i– d, ii–e, iii–a, iv–b, v-c (2) i–c, ii–e, iii–b, iv–a v-d

(3) i–d, ii–e, iii–a, iv–b, v-d (4) i–d, ii–c, iii–a, iv–b v-e

97. All the 4 circles in the figure have a radius of 7 cm. What is the area of the shaded region?



(1) 44 cm^2 (2) 42 cm^2

(3) 36 cm^2 (4) 154 cm^2

98. $6 - 3(2x + 3) = 5(8 - x) - 47$. What is the value of 'x' in this equation?

(1) 4 (2) 5 (3) 3 (4) 2

99. What is the unit digit of $\{[267^8]^2\}^5$?

(1) 3 (2) 7 (3) 1 (4) 9

LIVEWORKSHEETS

100. $\frac{x^2+y^2+2xy}{x^3+3x^2y+3xy^2+y^3}$ =?

(1) $\frac{2xy}{x^3+3y+3x+y^3}$ (2) $\frac{1}{x+y}$ (3) $\frac{x^2+y^2+2xy}{(x-y)^3}$ (4) x + y

101. If the base of a triangle is 2x+4y and the height is 2x, then what is the area?

(1) $4x^2 + 8xy$ (2) $1 + \frac{2y}{x}$ (3) $4x^2 + 2xy$ (4) $2x^2 + 4xy$

102. If 7 bags cost ₹1190, what is the cost of 4 bags?

(1) ₹680 (2) ₹2082.5 (3) ₹640 (4) ₹780

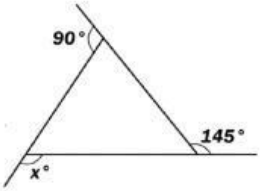
103. What is the only discount rate which is equivalent to two consecutive discounts of 20% and 25%?

(1) 35% (2) 45% (3) 40% (4) 30%

104. What is the compound interest earned in one year on ₹400 at an annual interest rate of 10%, compounded semi- annually?

(1) ₹441 (2) ₹41 (3) ₹440 (4) ₹40

105. What is the value of 'x' in the given figure?



(1) 235° (2) 55°

(3) 125° (4) 135°

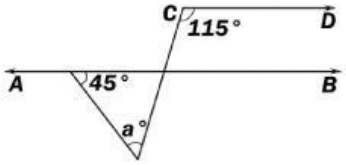
106. **Condition 1:** Diagonals bisect each other.

Condition 2: The angle between the diagonals is not a right angle.

Which shape fulfils both the above conditions?

(1) Square (2) Parallelogram (3) Rhombus (4) Trapezium

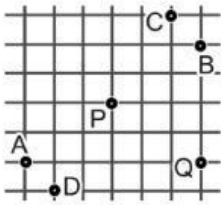
107. If $\overleftrightarrow{AB} \parallel \overrightarrow{CD}$ in the given figure, what is the value of "a"?



(1) 160° (2) 65°

(3) 135° (4) 70°

108. What is the new position of point Q in the figure if it is rotated 90° counterclockwise with respect to point P?



(1) B (2) C

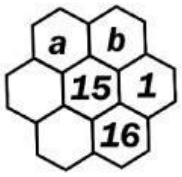
(3) D (4) A

109. {smallest two-digit number, largest one-digit number, smallest composite number, largest negative integer, largest two-digit number, largest two-digit prime number} – What is the range of this set?

(1) 100 (2) 98 (3) 96 (4) None of these

110. The given structure is derived from Pascal's triangle. What is the value of "a" and "b"?

(1) 13, 2 (2) 10, 5 (3) 12, 3 (4) 14, 1



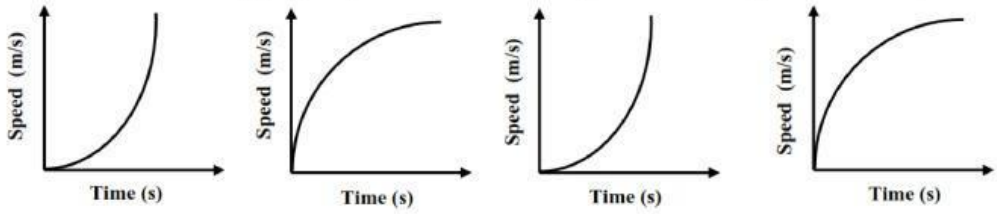
LIVEWORKSHEETS

SCIENCE

111. Which of following effect is wrong when heating a solid substance?
(1) There is no change in quantity and number of particles of a substance.
(2) Volume of the substance increases.
(3) Mass of the substance increases.
(4) Remains same without any change in the dimensions of particles.

112. The velocity of an object moving in straight line changes from 16 m/s to 3 m/s in 8 seconds. What is its acceleration and type of acceleration?
(1) $-0.625 m/s^2$, Positive acceleration
(2) $-1.625 m/s^2$, Negative acceleration
(3) $0.625 m/s^2$, Positive acceleration
(4) $1.625 m/s^2$, Negative acceleration

113. Which of the following graph represents bus travelling with increasing acceleration (Non-uniform acceleration).



(1) (2) (3) (4)

114. Who explained the structure of atom based on energy levels in an atom?
(1) Niels Bohr
(2) John Joseph Thomson
(3) Earnest Rutherford
(4) Erwin Schrodinger

115. Find the Kelvin value of 14°F.
(1) 362.15 K (2) -362.15 K (3) 263.15 K (4) -263.15 K

116. A current of 2.04 A passes through a circuit in 10 seconds. Find the amount of charge flows across a particular point in that circuit?
(1) 0.204 C (2) 2.04 C (3) 20.4 C (4) 204 C

117. Mixing of which two colours give Cyan colour?
(1) 1 Red + 1 Blue (2) 1 Red + 1 Green (3) 1 Green + 1 Blue (4) 1 White + 1 Black

118. Select the incorrect pair.
(1) Spiral Galaxy - Contains old stars
(2) Elliptical Galaxy - Contains three dimensional, stars in some what random orbits
(3) Irregular Galaxy - About one forth of the Galaxies found so far are of this type
(4) Barred spiral Galaxy - Our own solar system is located in this galaxy

119. What is the Radian value of 45° ?
(1) π (2) $\frac{\pi}{2}$ (3) $\frac{\pi}{3}$ (4) $\frac{\pi}{4}$

120. Find the Analogy:
Reflection of light : Periscope :: Refraction of light: _____
(1) Kaleidoscope (2) Prism (3) Parabolic mirror (4) Pinhole camera

121. Find the odd one from the following based on conduction of heat.
(1) Wool (2) Glass (3) Ceramic (4) Copper

122. Which of the following metal has high resistance?
(1) Copper (2) Tungsten (3) Aluminium (4) Iron

LIVEWORKSHEETS

123. Match: (Speed of sound in 20°C, Speed in m/s)

a) Hydrogen	-	i) 1530
b) Seawater	-	ii) 6420
c) Oxygen	-	iii) 1284
d) Iron	-	iv) 5950
e) Aluminium	-	v) 316

(1) a – iii, b – i, c – v, d – iv, e – ii (2) a – iii, b – v, c – iv, d – ii, e - i
(3) a – iv, b – ii, c – v, d – i, e – iii (4) a – iv b – i, c – iii, d – v, e - ii

124. In Cathode ray tube, when a small wheel with less weight is placed in the path of Cathode rays, it rotates, why?
(1) Cathode rays travel in straight line.
(2) Cathode rays are made up of material particles which have mass and kinetic energy.
(3) Cathode rays are made up of negatively charged particles.
(4) It depends on the nature of gas filled inside.

125. Find the correct pair:

(1) Mountains	-	High atmospheric pressure
(2) Buoyant force	-	Downward force
(3) Pascal's law	-	Working of hydraulic lift
(4) Viscous force	-	SI unit – Nm^{-1}

126. _____is added to the finished glass product to obtain a glass that can be easily cut.
(1) Iron oxide (2) Lead oxide (3) Boron oxide (4) Chromium oxide

127. Find the wrong statement:
(1) The process of converting solid to liquid on heating is called melting
(2) Louics pasters was the first person to descride the process of fermentation
(3) Water is subjected to eletrolysis, it splits in to hydrogen and oxygen
(4) Sublimation is a method of separation as well as a method of purification

128. Find the Correct statement:
(1) During chemical changes, in addition to formation of light, sound and pressure, some other effects also occur.
(2) Medicines are prepared by carrying out a chain of physical changes.
(3) Citric acid reacts with sodium bi carbonate and gives hydrogen gas.
(4) Vanaspathi is produced from vegetable oil by adding nitrogen gas.

129. Water decomposes ____% at ____ temperature to give hydrogen and oxygen gas.
(1) 0.1%, 100°C (2) 1%, 1000°C (3) 1.5%, 1500°C (4) 0.02%, 2000°C

130. $CH_3COOH + NaOH \rightarrow$ _____ + _____ + Heat
(1) Sodium nitrate + Nitrogen (2) Sodium chloride + Chlorine
(3) Sodium acetate + Water (4) Sodium sulphate + Sulphur

131. Which of pictorial symbol given be John Dalton for ammonia?

(1) (2) (3) (4)

132. Why Nitrogen gas is used to fill in vehicle tyres?
(1) Increases the life of tyres.
(2) It has constant temperature than air.
(3) It does not react with metallic rim of tyres.
(4) All of these.

LIVEWORKSHEETS

133. Match.

a) Tuber	-	i) Buds in the aruils of scale leaves
b) Corm	-	ii) Weak lateral branch
c) Bulb	-	iii) Dormant buds on stem
d) Sucker	-	iv) Slender branch of the stem
e) Stolon	-	v) Stones flushy leaves.

(1) a – ii, b – i, c – v, d – iv, e – iii (2) a – iii, b – v, c – iv, d – ii, e - i
(3) a – iv, b – ii, c – v, d – i, e – iii (4) a – iii, b – i, c – v, d – ii, e – iv

134. Name the fungus develops on moist bread.
(1) Albugo candila (2) Mico sporum (3) Rhizopus stonlifer (4) Claviceps purpuriya

135. Assertion : In cautus plants, leaves are reduced to spines
Reason : To avoid transpiration,leaves are modified into spines
(1) Assertion & Reason are correct, Reason is correct explanation of Assertion
(2) Assertion & Reason are correct, Reason is not a correct explanation of Assertion
(3) Assertion is correct, Reason is wrong
(4) Assertion is wrong and Reason is correct.

136. Select the incorrect pair.

(1) Acalypha indica	-	Euphorbiaceae
(2) Aloe vera	-	Liliaceae
(3) Solanum trilobatum	-	Solanaceae
(4) Aegle marmelos	-	Malvaceae

137. Match.

a) Algae	-	i) Funaria
b) Mosses	-	ii) Paramecium
c) Ferns	-	iii) Adiantum
d) Monera	-	iv) Chara
e) Protista	-	v) Blue green algae

(1) a – iii, b – v, c – ii, d – i, e - iv (2) a – iv, b – i, c – iii, d – v, e - ii
(3) a – ii, b – iv, c – i, d – v, e – iii (4) a – ii, b – i, c – v, d – iii, e - iv

138. Respiratory organelle of a cell is _____.
(1) Ribosome (2) Centriole (3) Vesicles (4) Mitochondria

139. Which of the following micro-organism enters in to human body via animal bite and reaches brain through spinal cord?
(1) Aptho virus (2) Rapto viridae (3) Mico bacterium tuberclae (4) Liver fluke

140. Find the odd one out.
(1) Epithelial tissue (2) Vascular tissue (3) Nervous tissue (4) Connective tissue

141. The anthrax disease which is called as zosters disease is caused by _____ microorganism.
(1) Fungi (2) Bacteria (3) Virus (4) Protozoa

142. The filament like structures which are the basic unit of fungus body called as _____.
(1) Hypha (2) Capsid (3) Rhizoids (4) Flagella

143. Select the correct pair.

(1) Amoeba	-	Pellicle
(2) Euglena	-	Chloroplast
(3) Plasmodium	-	Contractide wall
(4) Paramesium	-	Stigma

LIVEWORKSHEETS

144. Assertion : Human beings maintain their body temperature as constant.
Reason : When the body temperature lowered, heat is produced by the muscular work by shivering.
(1) Assertion is wrong, Reason is correct.
(2) Assertion is correct, Reason is wrong.
(3) Assertion & Reason are correct but Reason does not explain Assertion.
(4) Assertion & Reason are correct, Reason explains Assertion.

145. The bones of the foot and leg are called as _____.
(1) Carpals, meta carpals (2) Tarsals, meta tarsals
(3) Tibia, Fibula (4) Humerus, ulna

Social Science

146.Match the following:

(a) Tariq -i – Firozagi	–	(i) Al-Baruni
(b) Tagaytay -i - Hind	–	(ii) Hassan Nizami
(c) Taj - ul - ma - asir	–	(iii) Minkaj Us Siraj
(d) Tabakat - i - Nashiri	–	(iv) Zia - Ut - Bharani

(1) a - iv, b - i, c - iii, d - ii (2) a - iv, b - i, c - ii, d - iii
(3) a - ii, b - iii, c - iv, d - i (4) a - iii, b - iv, c - ii, d - i

147. "The Periya Purana and the Kambaramayana" belong to _____ period.
(1) Pandyas (2) Pallavas (3) Cholas (4) Vijayanagara kings

148. Arrange the following in the chronological order:
1) Timor's invasion.
2) Firoz Shah Tughlaq Firoz's natural death
3) Muhammad bin Tughlaq ascended the throne
4) Madurai emerged as a separate sultanate

(1) 3, 4, 1, 2 (2) 3, 4, 2, 1 (3) 2, 4, 1, 3 (4) 4, 2, 3, 1

149.Choose the correct statement:
A) Akbar attacked Durgavati, the queen of the city of Ahmednagar.
B) Akbar conquered Ranthampur in 1568.
C) Salim Chisti and Ramdas enjoyed Akbar's immense respect and admiration.
D) Akbar defeated Rana Pratap, son of Raja Mansingh, in the Battle of Haldikat in 1576.
(1) All are correct (2) A and D are correct
(3) C and D are correct (4) C only correct

150.Abdul Waqith Abu Nassif, the founder of the Suravarthi organization, belongs to which country?
(1) Iran (2) Pakistan (3) Iraq (4) India

151. The Siddhanavasal Temple was built in the _____.
(1) 6th century AD (2) 7th century AD (3) 8th century AD (4) 9th century AD

152. Which of the following is not correct?
(1) The beach temple located in Mahabalipuram was built by Pallavaram II Narasimha.
(2) Adinathar Temple is located in Alwar Thirunagari.
(3) The architecture of the early cholas was designed in the Sembian Mahadevi style.
(4) The later Chola period is known for its Manimandapams.

LIVEWORKSHEETS

153.Which of the following is not incorrect?
(1) Tamils generally belonged to the Digambara sect.
(2) Anga is a scripture followed by the Svetambaras.
(3) The tallest Jain statue in Tamil Nadu is the Neminathar statue
(4) The Jain temple at Kalagumalai, Thoothukudi district was built by the Pandya king Maravarman Kulasekaran.

154. Which of the following is the correct combination?
(1) Bhairava Hill – Kukkara Palli
(2) Mahavamsa – The teachings of the Buddha
(3) Mahendravarman – Vira Chozhiyam
(4) Buddha Ghosa – Buddhacharita

155. The English commander who defeated the Portuguese army in the naval battle near Surat was
(1) Thomas Best (2) Christian IV (3) Charles II (4) William Hawkins

156.The battle between the Nawab of Karnataka, Anwaruddin and the French army was _____.
(1) Battle of Buxar (2) Battle of Adyar (3) Battle of Plassey (4) Battle of Talaikottai

157. Statement: The policy of disinheritance was introduced in India in 1848 by Lord Dalhousie.
Reason: To increase British dominance in India and to expand the British Empire.
(1) Both the statement and the reason are false
(2) The statement is true, the reason is false
(3) The statement is true, the reason explains the statement
(4) The statement is true, the reason does not explain the statement

158.Who founded the Muhammadian Anglo School in Aligarh?
(1) Sir Syed Ahmed Khan (2) Seegan Balgu
(3) Dr. Radhakrishnan (4) Reverend Larry

159.Choose the correct one:

(a) Myanmar – Poppa
(b) USA – Saint Helen
(c) Depth of Mantle – 2900 km
(d) Inner Core – Silica and Magnesium
(1) a, b, c only correct (2) All are correct (3) All are wrong (4) a, b only correct

160.Reasons for the formation of "Alluvial Fans "are _____.
(1) Wind (2) Glacier (3) Sea waves (4) River

161.A settlement found on the northern side of the Kosi Pass:
(1) Clustered Settlement (2) Oblong Settlement
(3) Rectangular Settlement (4) Scattered Settlement

162.In which state of India, Koyna Dam is located?
(1) Maharashtra (2) Gujarat (3) Punjab (4) Uttarakhand

163. Choose the correct statement from the following:
(A) Jai Chalmer Wind Farm is located in the state of Rajasthan.
(B) Sardar Sarovar Dam is in Maharashtra.
(C) Tucurui Dam is in Venezuela.
(D) Hydropower is the cheapest energy resource.
(1) A, B, C only correct (2) A, B, D only correct (3) A and D correct (4) A and C correct

LIVEWORKSHEETS

164.Choose the one that doesn't match:
(1) Mica – China
(2) Manganese – South America
(3) Bauxite – Australia
(4) Limestone – China

165. Match the following:
(a) Athirapalli Falls - i. Andhra Pradesh
(b) Tarkarli Beach. - ii. Servarayan Hill
(c) Upulapadu Birds Sanctuary - iii. Maharashtra
(d) Kiliyur Falls - iv.Thrissur
(1) a - iv, b - i, c - iii, d - ii (2) a - iv, b - iii, c - i, d - ii
(3) a - ii, b - iii, c - iv, d - i (4) a - iii, b - iv, c - ii, d - i

166.Top Slip is located in _____.
(1) Jawadu Hills (2) Meghamalai (3) Anaimalai (4)Kolli Hills

167. The tree known as the "axe breaker" is _____.
(1) Logwood (2) Laurel (3) Quebracho (4) Pine

168. Which of the following is incorrect?
(1) The Amazon forests are called "Selvas"
(2) Argentina is the world's leading producer and exporter of corn
(3) Ghana is the world's leading producer of coffee
(4) The Crayola cattle live on Alfalafa grass

169. Which of the following is incorrectly matched?
(1) Oil production. – Venezuela
(2) North America. – Grenada
(3) South America. – Lake Maracaibo
(4) Europeans and Blacks – Sambo

170.What is the meaning of the word "metamorphic"?
(1) Change (2) Form (3) Soil (4) Heat

171.Select the odd one.
(1) Perth (2) Darwin (3) Brisban (4) Keiro

172. The sector known as "Information Technology Industries" are _____.
(1) Fifth level economic activities (2) Fourth level economic activities
(3) Tertiary economic activities (4) Secondary economic activities

173. Match the following:
(a) Cocoa – 1. Backtrack
(b) Ayers Rock – 2. New South Wales
(c) Kosciuszko – 3. African Lake
(d) Malawi and Turkana – 4. Ghana
(1) a-4 b-1 c-3 d-2 (2) a-4 b-1 c-2 d-3 (3) a-2 b-3 c-4 d-1 (4) a-3 b-4 c-1 d-2

174. Australia's largest desert is _____.
(1) Sahara Desert (2) Simpson Desert (3) Vinson Massif (4) Victoria Desert

LIVEWORKSHEETS

175.The party system in Norway is _____.
(1) Single party system (2) Bi- Party system
(3) Multi Party system (4) None of the above

176.What is the minimum age to become a member of the Legislative Council?
(1) 25 Years (2) 30 years (3) 35 Years (4) 18 Years

177.In which year did Mother Teresa receive the Nobel Prize for Peace?
(1)1972 (2)1979 (3)1997 (4) 2007

178.When was the National Consumer Disputes Redressal Commission established?
(1)1986 (2) 1991 (3) 1988 (4) 1990

179.PIO means _____.
(1) Overseas Indian (2) Native Indian
(3) Holder of a foreign citizenship card (4) Deprived of citizenship

180. From the following, which is not a direct tax?
(1) Company Tax (2) Property Tax (3) Gift Tax (4) Sale Tax

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LIVEWORKSHEETS