Personal Blank Test

1. Name / பெயர் : 
2. Date of Birth & Age / நிலவு வயது : 
3. Sex / இருப்பு : 
4. Religion & Caste / முதலாம் வாழ்க்கை : 
5. Medium of Instruction / சொல்லார் முறை : Tamil / English 
6. Types of Schools / செயல்பாடு வகை : Govt/ Privet/ Semi Govt. 
7. Nature of Institution / விளையாட்டு வகை : Fully Aided / Aided / Govt 
8. Location / மூலநிலை : Village /Town 
9. Parents Education Level / பிற்பக்க எளித்துறை : Illerated / School/Coffee/Proposanal 
10. Parents Occupation / பிற்பக்காளர் வணிகம் : Govt/ Privet/Own Businesses 
11. Annual Income / வருமான் : (a) Up to 75,000/- (b) 75,001 to 1,00,000/- (c) 1,00,001 to 1,50,000/- (d) 1,50,001 to 2,00,000/- (e) above 2,00,000/-

Socio – Economic Status (SES)

1. What is your Caste? / குடும்ப தொன்மை…………………………………………………………

2. What is your Occupation / வணிகம் ………………………………………(Students may write the name of their parent’s occupation)

3. Type of Family / குழுவுடன் வாழ்வு

   Join /சான்று குழு என்பது போன்ற ஒரு குழுவானது

   Nucler /குழு

4. Number of members in your family / குழுவின் எண்ணிக்கை

   More than 10

   5-10

   3-5

   2

   1

5. Educational Qualification of your family members: பிற்பக்க எளித்துறை

<table>
<thead>
<tr>
<th>Educational Qualification</th>
<th>Grand Father</th>
<th>Grand Mother</th>
<th>Father/Husband</th>
<th>Mother</th>
<th>Brother</th>
<th>Sister</th>
<th>Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ph.D(அப் பயிர்ப்பு)</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PG (பிரிட்டுறை)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Graduate (திசைந்தாம்) □ □ □ □ □ □ □ □
Senior Secondary (12th) □ □ □ □ □ □ □ □
Secondary (10th) □ □ □ □ □ □ □ □
Middle (8th) □ □ □ □ □ □ □ □
Primary (5th) □ □ □ □ □ □ □ □
Illiterate (மறுசெய்தியாளர்) □ □ □ □ □ □ □ □

6. Monthly income from all sources: (மாத இடம்பெற்று) □ □ □ □ □ □ □ □
   - More than Rs. 50,000 □
   - Rs. 30,000 to 50,000 □
   - Rs. 20,000 to 30,000 □
   - Rs. 10,000 to 20,000 □
   - Rs. 5,000 to 10,000 □
   - Less than Rs. 5,000 □

7. Do you or any other member of your family pays income tax? / தொகை வர்க்கக்காரன்? □ □ □ □ □ □ □ □
   - Yes □
   - No □

   Number of members paying income tax ………………..

8. Average monthly saving of you family /மாத மதிப்பீட்டு □ □ □ □ □ □ □ □
   - More than Rs. 50,000 □
   - Rs. 30,000 to 50,000 □
   - Rs. 20,000 to 30,000 □
   - Rs. 10,000 to 20,000 □
   - Rs. 5,000 to 10,000 □
   - Rs. 4,000 to 5,000 □
   - Rs. 2,000 to 3,000 □
   - Less than Rs. 1,000 □

9. Amount in fixed deposit (With you and your family) /சுற்றுச்சாதனை கிளை □ □ □ □ □ □ □ □
   - More than Rs. 10,00,000 □
   - Rs. 5,00,000 to 10,00,000 □
   - Rs. 2,00,000 to 5,00,000 □
   - Rs. 1,00,000 to 2,00,000 □
   - Rs. 20,000 to 50,000 □
   - Rs. 5,000 to 10,000 □
   - Less than Rs. 5,000 □
   - Nil □

10. Average monthly expanses incurred by your family on newspaper magazines and other means of entrainment. / வானையியக்கான தமிழ் கதை வசதிகள் □ □ □ □ □ □ □ □
    - More than Rs. 5,000 □
    - Rs. 2,000 to 5,000 □
    - Rs. 1,000 to 2,000 □
    - Rs. 500 to 1,000 □
    - Rs. 100 to 300 □
    - Less than Rs. 100 □
    - Nil □
11. Type of house you are living in / உள்ளூர் வாழ்ச்சியின் தவறான்

- Own House / Rented House
- Govt. or Employer's Accommodation

12. Size of the House you are living in / உள்ளூரின் வெப்பமைப்பு

- Very big (with 6 or more rooms and large court yard)
- Big House (3-5 Rooms and small court yard)
- Small house (2 Rooms)
- Very small house (1 room)

13. Location of the House you are living in / உள்ளூர் வெப்பமைப்பின் மையங்கள்

- Metropolitan City
- City
- Town
- Village

14. If you are living in a rented or government / employers accommodation do you have your own house? / அவை உள்ளூர் வழங்கும் வைப்பானையை நேபசர் உள்ளூர்

(i) Yes
(ii) No

If yes what is its size? / அவை உள்ளூர் வழங்கும் வைப்பானையை நேபசர் உள்ளூர்

- Very big (with 6 or more rooms and large court yard)
- Big House (3-5 rooms and small court yard)
- Small House (2 rooms)
- Very small house (1 room)

(iii) Where this house is located? / உள்ளூர் வழங்கும் வைப்பானையை நேபசர் உள்ளூர்

15. How much property do you / your family have / உள்ளூர் வைப்பானையை நேபசர் உள்ளூர்

<table>
<thead>
<tr>
<th>(A) Agricultural</th>
<th>(B) Residential Plots</th>
<th>Size of the Plot</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 10 acres</td>
<td>5 or more</td>
<td>500 mts2 or more</td>
</tr>
<tr>
<td>5-10 acres</td>
<td>3 to 5</td>
<td>300-500 mts2</td>
</tr>
<tr>
<td>2-5 acres</td>
<td>1 to 2</td>
<td>200-300 mts2</td>
</tr>
<tr>
<td>Less than 2 acres</td>
<td>Nil</td>
<td>100-200 mts2</td>
</tr>
</tbody>
</table>
(C) (i) Do you have any shop or other commercial property? / மாட்டும் வேலும் தெரியாத?

Yes ☐  No ☐

(ii) If yes than number of shops / குறிப்பிட்டு எந்த தொகுதியில் எந்த எண்

…………………………..

(iii) Location of shops / அடையாளம் வேலும் தெரியாத

Metropolitan city ☐  City ☐

Town ☐  Village ☐

(iv) Location of the shop in market / அடையாளம் மார்கெட் வேலும் தெரியாத

Main market ☐  Other Place ☐

16. Are you (or have you been) a member of legislative assembly/council or member of parliament. (அரசுத் தொடர்புத் தருணத்தார்) ☐ ☐

17. Are You (or have you been) a minister/ Chairperson or member of board in state or central Government (அரசுத் துணை தருணத்தார்) ☐ ☐

18. Are you a member of (or office bearer ) of any social institution / organization. / மக்களை மதிப்பிட்டே வருமாறு கூட்டம்

19. Are you a member (or office beare ) on any political party? / உட்பொருள் கூட்டம்

20. Are you a member (or office beare of local bodies (Gram Panchayat, Municipal Committee, Municipal Corporation, Khap panchaat, Union etc., If Yes Write the name of body and office held (அரசியல் பகுதிகள் வேலும் தெரியாத)

21. Are you a member (or office beare ) or religious bodies (i.e., Temple, Gurudwara, Mosque etc.,(சமயக் பாட்டியாளர்கள்) ☐ ☐

22. Are you a pujari, Molvi, Granthi in temple in temple, Mosque Gurudwara etc.,/ முயற்சிப் பயர் வெள்ளையான விளையாடை

23. Are you a member (or office beare) of any government or non- government educational association/society body./ அரசு எளியாளர் கூட்டம்

24. Do you participate regularly in academic /./social religious conferences/Seminars/Meeting etc./ விளையாட்டு விளையாடும்

25. Which of the following items do you have in your house (Please also indicate their number)

<table>
<thead>
<tr>
<th>Sr.No</th>
<th>Items</th>
<th>Put a tick (✓) mark on what ever is applicable</th>
<th>Number</th>
</tr>
</thead>
</table>

(A) Vehicle (s)

<table>
<thead>
<tr>
<th>No.</th>
<th>Vehicle</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Bus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Truck/Tractor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Tata</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Jeep</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>(i) Car (Luxury)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ii) Car (Non- Luxury)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Motorcycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Scooter/Scooty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Camel Cart/Bullock Cart</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Tempo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Auto Rickshaw</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Cycle Rickshaw</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Cycle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Any Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(B) Household Possessions

<table>
<thead>
<tr>
<th>No.</th>
<th>Possession</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Internet</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Computer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Fax</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Air Conditioner</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Refrigerator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>V.C.R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Microwave</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>C.D Player/D.V.D</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Mobile Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Land line Phone</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Stereo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>T.V. (B&amp;W)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>Colour T.V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Fan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>L.P.G. Connection (1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>L.P.G Connection (2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
17. Stove
18. Radio
19. Sofa Set
20. Fancy Chair and Table
21. Simple chair and Table
22. Any other

(C) Ornaments
   Diamond
   Golden
   Silver
   Any Other

(D) Livestock (Milk Giving and other Farm Animals)
   Buffalo
   Cow
   Bullock
   Camel
   Goat
   Any other

(E) Poultry
   (i) For Household Purpose
   (ii) For Commercial Purpose
      Small Scale upto 500 birds
      Large Scale more than 500 birds

(F) Fishery
   (i) Small scale (Upto 10 ponds)
   (ii) Large Scale (More than 10 ponds)
Qs for students STAGE 2: PART 1 - Achievement Test (Chemistry) - (AT-Test)

1. Dual Character of an electron was explained by .................
   a) Bohr  b) Heisenberg  c. de Broglie  d. Pauli
   
2. \( \frac{q}{m} \) ratio of an electron was determined by .................
   
3. The value of electron affinity of gold is found to be .................
   a. -187KJmol\(^{-1}\)  b. 340 KJmol\(^{-1}\)  c. 222.7 KJmol\(^{-1}\)  d. Zero
   
4. Which one of the following is used as refrigerant?
   a. caf\(_4\) b.cf\(_2\)c\(_2\)l\(_2\) c. NaF  d. uF\(_6\)
   
5. Silver salt used in photograph is .........................
   a. AgCl  b.Ag\(_2\)no\(_3\)  c.Agf  d. AgBr
   
6. Ceria is used in .........................
   a. toys  b.tracer bullets  c. gas lamp materials  d. none of these
   
7. Who is considered of father of coordination chemistry?
   
8. The phenomenon of radioactivity was discovered by .....................
   a. madam curie b. pierre curie  c.Henry Becquerel  d.ruther ford
   
9. The Bragg’s equation is .........................
   a. \( \lambda = \frac{2d \sin \theta}{\lambda} \)  b. \( n \lambda = 2d \sin \theta \)  c. \( 2\lambda = n \lambda \)  d. \( 2\lambda = 2d \sin \theta \)
   
10. In an adiabatic process which of the following is true?
    a. \( \mathbf{a} \)  b. \( \mathbf{b} \)  c. \( \mathbf{c} \)  d. \( \mathbf{d} \)

11. The value of \( \Delta \mathbf{m} \) in the synthesis of \( \text{NH}_3 \) by Haber’s process is equal to .................
    a. -1  b.-2  c.3  d.2
    
12. de Broglie equation is .........................
    a. \( \lambda = \frac{\nu}{h} \)  b. \( \lambda = \frac{h}{m\nu} \)  c. \( \lambda = \frac{h}{m\nu} \)  d. \( \lambda = \frac{h}{mv} \)
13. The hybridization in SF₆ molecule is .........................
   a. sp³  b. sp³d²  c. sp³d  d. sp³d³
   SF₆ சரோபத்தில் வளர்ந்த இயங்கும் .........................
   a. sp³  b. sp³d²  c. sp³d  d. sp³d³

14. The value of C-C distance found experimentally in a saturated hydrocarbon is .........................
   a.1.34Å  b.1.36 Å  c.1.54 Å  d.1.56 Å
   சுருக்கு நீரெந்த லோக்ஸ்சுவளில் வளர்ந்த கார்பன் கைலியம் C-C இல்லை
   a.1.34Å  b.1.36 Å  c.1.54 Å  d.1.56 Å

15. Electron affinity is expressed in .........................
   a. kJ  b.J  c.kJmol  d. kJmol⁻¹
   பொலிக்கவேற்று இயங்கும் களை பற்று
   a. kJ  b.J  c.kJmol  d. kJmol⁻¹

16. The shape of PCl₅ is .........................
   a.Pyramidal  b. trigonal bipyramidal  c.linear  d.tetrahedral
   PCl₅-ன் வடிவாக்கம்
   a.Pyramidal  b. trigonal bipyramidal  c.linear  d.tetrahedral

17. The lightest gas which is non-inflammable is .........................
   a.He  b. H₂  c. N₂  d. Ar
   மிக புலிவந்த வெப்பமை கனிம குன்று
   a.He  b. H₂  c. N₂  d. Ar

18. The colour of purple of cassius is .........................
   a.purple  b.blue  c. bluish green  d.apple green
   கஸ்ஸியசு பூக்களின் நிறம்
   a.purple  b.blue  c. bluish green  d.apple green

19. The alloy used in surgical instrument is .........................
   a.German silver b. Invar c.Stellite  d. sterlite
   மருந்துக் கருவிகளில் பயன்படுத்தப்படும் எலையின் புனிதமாக்கல்
   a.German silver b. Invar c.Stellite  d. sterlite

20. Lanthanides and extracted from .........................
   a.Limonite  b. monazite  c. magnetite  d. casserite
   கிளைலாயச்சி எடுக்கப் பயன்படுத்தப்படும் புனிதமாக்கல்
   a.Limonite  b. monazite  c. magnetite  d. casserite

21. Lanthanides are separated by .........................
   a.fractional distillation  b. steam distillation  c. fractional crystallization  d.sublimation
   கிளைலாயச்சிகள் சுழிக்கப்படும் நேரலை
   a.fractional distillation  b. steam distillation  c. fractional crystallization  d.sublimation

22. The geometry of [Ni(CN)₄]⁡⁻ is .........................
   a.Tetrahedral  b. square planar  c. Triangular  d. octahedral
   [Ni(CN)₄]⁻ இன் வடிவாக்கம்
   a.Tetrahedral  b. square planar  c. Triangular  d. octahedral

23. [Ni(CN)₄]²⁻ ion is diamagnetic and it involves the .....................hybridization
   a dsp²  b. sp³  c.dsp³  d.sp³d²
   [Ni(CN)₄]²⁻ இன் கருப்பான வெப்பமை சுழிக்கப்படும் வடிவாக்கம்
   a dsp²  b. sp³  c.dsp³  d.sp³d²

24. The most penetrating radiations are .........................
   a. α-rays  b. β-rays  c. γ-rays  d.all are equally penetrating
   கொர் வெப்பமை காற்றில் கருப்பான வடிவாக்கம்
   a. α-rays  b. β-rays  c. γ-rays  d.all are equally penetrating

25. Radioactive sodium -24 is used to check the effective functionary of the ................
   a.brain  b.heart  c.lungs  d.kidney
26. The crystal structure of CsCl is ……………
   a. simple cubic    b. face centred cubic    c. tetragonal    d. body centered cubic

27. In Bragg’s equation ‘n’ represents……………………
   a. number of moles    b. Avogadro number    c. quantum number    d. order of reflection

28. Change in Gibb’s free energy is given by ……………
   a. \( \Delta G = \Delta H + TAS \)    b. \( \Delta G = \Delta H - TAS \)    c. \( \Delta G = \Delta H \times TAS \)    d. none of these

29. The mathematical expression of first law of thermodynamics is ……………
   a. \( \sum q = \Delta W - W \)    b. \( \Delta E = q - W \)    c. \( W = q + \Delta E \)    d. \( \frac{\Delta W}{q} = \Delta B \)

30. When \( \Delta ng \) in a homogenous gaseous equilibrium is positive then …………
   a. \( kP = kC \)    b. \( kp < kC \)    c. \( kP > kC \)    d. \( kp = \frac{kC}{2} \)

31. The maximum yield of ammonium by Haber’s process is ……………
   a. 78%    b. 97%    c. 37%    d. 89%

32. Which of the following is paramagnetic?
   a. \( O_2 \)    b. CN\(^{-} \)    c. Co    d. No\(^{+} \)

33. The electron affinity among the halogens varies as ……………
   a. Br\( > I \)\( > F \)\( > Cl \)    b. Cl\( > Br \)\( > I \)\( > F \)    c. F\( > Cl \)\( > Br \)\( > I \)    d. I\( > Cl \)\( > Br \)\( > F \)

34. One can draw the map of a building on a glass plate by ……………
   a. HI    b. HF    c. HBr    d. HCl

35. The transition element with the lowest atomic number is ……………
   a. scandium    b. Titanium    c. zinc    d. lanthanum

36. Important one of lanthanides is …………
   a. pitchblende    b. monazite    c. gypsum    d. chromite

37. Which one is a double salt? a. \( K_2SO_4 \cdot Al_2(SO_4) \cdot 3.24H_2O \)    b. NaCl    c. \( k_4[Fe(CN)]_6 \)    d. KCl

38. EDTA is used as ………a. pigment    b. dye    c. masking agent    d. vulcanizing agent
EDTA can form chelates with metal ions? a) Tita nium b) Iron c) Copper d) Silver

39. After 24 hours 0.125g of the initial quantity of 1 g of a radioactive isotope is left out. The half-life period is ________ a) 24 hours b) 12 hours c) 8 hours d) 16 hours

40. Entropy (S) and the entropy change (ΔS) of a process ________ a) are path function b) are State functions c) are constant d) have no values

41. Which one of the following can be used as a catalyst in Haber’s Process? a) Pt b) Pd c) Fe d) Ni

42. The Shape of 1s Orbital is ________ a) dumb – bell b) triple dumb – bell c) Symmetrical sphere d) clover leaf

43. The bond length of Br – Br in bromine molecule is equal to ________ a) 0.74Å b) 1.54Å c) 1.98Å d) 2.28Å

44. Which of the following is most abundant in earth’s crust? a) C b) Si c) Ge d) Sn

45. The Product obtained when Na₂Cr₂O₇ is heated with carbon is ________ a) Chromic oxide b) Sodium Chromate c) Sodium Chromite d) Both (a) and (b)

46. Which of the following is cationic complex a) K₄[Fe(CN)₆] b) [Cu(NH₃)₄]Cl₂ c) K₃[Cr(C₂O₄)₃] d) K₃[Fe(CN)₆]

47. The number of chloride ions that surrounds the central Na⁺ ion in NaCl crystal is ________ a) 12 b) 8 c) 6 d) 4

48. The number of chloride ions that surrounds the central Na⁺ ion in NaCl crystal is ________ a) 12 b) 8 c) 6 d) 4

50. In a reaction 2O₃ ⇌ 3O₂ the value of Kc is ________ a) b) c) d)
1. Chemistry is the most favorable subject for me.
2. We have to learn chemistry subject deeply.
3. Doing Experiment in the chemistry lab makes me feel happy.
4. I feel delighted to read chemical reactions and explanation.
5. Chemistry is a continuous and unending subject.
6. I like to spend my holidays in doing interesting experiments in the lab.
7. Chemical Experiments Help to grow internal intelligence.
8. Experts in chemistry exhibit interest in social activities.
9. I would like to find out solution for doubts in chemistry by myself.
10. I like to become a professor in chemistry.
11. I like to study chemistry with he comprehension.
12. Audio –Visual Aids are useful in teaching chemistry.
13. Chemistry provides more employment opportunities in various fields.
14. Chemistry should be fundamentally a compulsory subject as per my opinion.
15. I feel very happy when teacher asks questions in chemistry definition.
16. I admire and appreciate all the chemistry invention and discovery.
17. I will read repeatedly chemistry lesson during my leisure.
18. I read the articles in chemistry published in papers with interest and enthusiasm.
21. I Play games related to chemistry only during my leisure.
22. I want have the fear for the chemistry examination.
23. I will attend all chemistry lesson during my leisure.
24. I don’t fee; chemistry period is longer than any other period.
25. I feel sorry if the chemistry teacher does not turn up to class.

Qs for students STAGE 2: PART 3 – Scientific Aptitude Test (SAT)

1. The different colors of the sunlight can be seen when the sun light?
   (A) Falls on a mirror (B) Passes through a thick glass
   (C) Passes through a thin glass (D) Passes through a prism
   (m) (M) (,) (<) 

2. Which one of the following scientists is famous for his theory of gravitational force of the earth? Newton (B) Archimedes (C) Edison (D) Einstein
   (m) (M) (,) (<) 

3. Discoveries made by the scientists are most likely to be true because.
   (A) The scientists are highly educated people
   (B) The discoveries are the results of careful and repeated experiments
   (C) The scientists seldom make mistakes (D) The results are known to the scientists beforehand.
   (m) (M) (,) (<) 

4. When a bell rings in a vacuum we would hear.
   (A) Usual sound (B) Less sound (C) No sound (D) Louder sound
   (m) (M) (,) (<) 

5. Water can be transformed to its purest form
   (A) By distillation (B) Filtration through sand (C) Addition of chlorine
   (B) Addition of potassium permanganate.
   (m) (M) (,) (<) 

6. How much weight a ship can carry without any fear of sinking?
   (A) The weight of the air displaced by the ship
(B) The weight of the materials used in building the ship
(C) The weight should be less than the weight of the water displaced by the ship minus the
weight of the ship. (D) It can carry any amount of weight provided they are equally spread over
the ship.
7. Magnet in relation to magnetic force is similar to earth in relation to
(A) Pull (B) Force (C) Gravity (D) The sun

8. Electron in relation to atom is similar to atom in relation to
(B) Molecule (B) Energy (C) Power (D) Compound

9. In a scientific method one should
(A) Guess the result beforehand (B) not repeat the experiment
(C) Draw his conclusion only on the basis of experimental data (D) Do all the above things

10. Under normal atmospheric pressure ordinary water boils at
(A) 100° Fahrenheit (B) 212° Fahrenheit (C) 32° Fahrenheit (D) 132° Fahrenheit

11. Air is (A) Composed of compound gas (B) Composed of a single gas
(C) A mixture of different gases in different proportions (D) A mixture of different gases in
equal proportion

12. Inside a vacuum glass jar a light wave and a sound wave are generated. Which one these
will be perceived by the observer outside?
(A) The light waves only (B) Both light and sound waves
(C) The sound waves only (D) Neither light nor sound waves.

13. As one moves away from the surface of the earth, the atmospheric air becomes
(A) More blue in color (B) Less dense (C) Denser (D) None of the above
14. (1) The velocity of light in air (2) The velocity of sound in air

15. (1) The velocity of sound in vacuum (2) The Velocity of sound through an iron rod

16. (1) The velocity of light in vacuum (2) The Velocity of sound in water

17. (1) The velocity of sound in air (2) The velocity of sound in water

18. (1) The velocity of light in air (2) The velocity of light in vacuum.

19. The velocity of a freely falling body
   - (A) Is zero  (B) Is constant but not zero  (C ) Decreases (D) Increase

20. The normal body temperature of a human being is
   - (A) 98.4⁰ Centigrade  (B) 98.4⁰ Fahrenheit  (C ) 96.8 ⁰ Centigrade  (D) 94.8⁰ Fahrenheit.

21. One of the important functions of the red blood corpuscles in human blood is to
   - (A) Carry Oxygen  (B) Carry Carbon dioxide (C )Carry Nitrogen  (D) None of the above

22. A ship was sailing through equatorial waters. At noon the captain observed a sudden fall in the barometer reading. He told the crew that he was expecting.
   - (A) A sudden cold wave (B)A clear and cloudless  weather (C)A storm weather (D)A hot and oppressive after noon

23. The electrical energy at the Durgapur power station is obtained from water by
24. The moisture present in the air of a room at 50°C was 10% of the air could absorb. The temperature is increased to 60°C Centigrade. The moisture that the air contains in what per cent of that it could now absorb?

(A) More than 10% (B) Less than 10% (C) Exactly 10%

25. Which one of the following bodies is composed of cells?

(A) Leaves of tree (B) The body of the earthworm (C) Human eye (D) Both (B) and (C) but not (A) (E) All the three (a), (b) and (c)

26. If a particle floats in water then it will float in any liquid

(A) Of lesser density (B) Of greater density (C) Harder than water (D) Softer than water

27. Oil is usually put in machines

(A) To reduce friction (B) To get some energy from oil (C) To reduce the heat generated in the machine

28. Which one of the following liquids will increase in volume when the temperature falls below four degree centigrade?

(A) Glycerine (B) Kerosene (C) Petrol (D) Water

29. Which one of the following animals did appear earliest upon the earth?

(A) Ape man (B) Snake (C) Bat (D) Shark (E) Jelly fish

30. The temperature at which a liquid boils can be changed by

(A) Boiling the water (B) Making use of the force that the water exerts in falling (C) Taking electricity from the water (D) Utilizing the great pressure exerted by the accumulated water of the dam wall.
31. Which one of the following is the characteristic of a scientific experiment?
(A) It deals with living beings
(B) It is an investigation
(C) It is to be done in a laboratory
(D) It requires sensitive and complicated apparatus

32. The weight of a particular object is 1 kg at calotte. In south pole it will weigh
(A) More than one kg
(B) Exactly one kg
(C) Less than one kg

33. Scientific laws can be described
(A) The laws which regulate scientific experiment
(B) The laws which clarify the natural accidents only
(C) Laws which rule nature
(D) The laws which describe natural phenomena

34. From an ordinary fire place the heat gets out into the room mainly by
(A) The movement of the heated particles from the fire place
(B) The movement of the dust particles in the air
(C) Passing directly from molecule to molecule

35. It is necessary to cross the equator while traveling from
(A) India to Japan
(B) Burma to Australia
(C) India to Ceylon
(D) Europe to Africa

36. Life will stop to continue in an aquarium if
(A) The sun light is shaded by covering the aquarium with a black cloth
(B) The stored oxygen above the water level is used up
The dissolved oxygen in water is used up.
The dissolved nitrogen in water is used up.
42. Which one of the following scientists is famous for his theory of relativity?
(A) Newton  (B) Edison  (C) Archimedes  (D) Einstein

43. Which one of the following is NOT TRUE of the moon?
(A) Its one side is always facing the sun  (B) It has tidal effect on the earth
(C) It revolves around the earth  (D) It rotates around its axis.

44. Though the arctic Ocean remains icebound in winter the sea animals do survive this is due to the fact that.
(A) When summer comes the snow melts away and they again become free
(B) The eggs laid by the sea animals before the sea got frozen hatch with the approach of summer and the sea is full of life again.
(C) The Lower portion of the ocean does not get frozen due to the stoppage of the convection currents as the water reaches a temperature of 4°C

45. A body weight 3 kg in water, if we weight it inside kerosene the weigh will
(A) Increase  (B) Decrease   (C) Will remain constant

46. Which one of the following does have only one species living on the surface of the earth?
(A) Bacteria   (B) Virus  (C) Man  (D) Insect  (E) Reptile

47. Which one of the following is considered as having the most specialized brain?
(A) Fox  (B) Elephant  (C) Dog  (D) Ape

48. Vaccination helps to prevent the spread of smallpox by
49. Which one of the following metals is generally used for the filaments of ordinary light bulbs?

(A) Tungsten  (B) Platinum  (C) Magnesium  (D) Silver

50. Which one of the following necessarily true in case of a chemical reaction?

(A) Certain amount of heat will be liberated (B) certain amount of heat will be absorbed

(C) It is accompanied by energy changes (D) It is accompanied by the loss of weight

51. A Black of ice melts away with the change of temperature.

52. A barrel of gun powder explodes after coming in contact with an electric spark.

53. A piece of meat is roasted over the oven.

54. A Layer of rust formed over a piece of iron exposed to air.

55. No change in temperature followed the mixing of two liquid substances.

56. Water pipes sometimes burst in winter because

(A) Water becomes heavier with fall of temperature during winter

(B) There occurs contraction in the pipe

(C) Water sometime freezes and density of ice is lower than that of water
57. Water can be boiled in a paper can because
(A) The substance of which the can in made has nothing to do with the boiling of water
(B) Water is a good conductor of heat
(C) Water boils at a temperature below the ignition point of paper.

58. If the diameter of a mercury barometer is doubled the height of the mercury color supported by the atmosphere will be halved.

59. Two sounds can produce silence.

60. There are sounds which we cannot hear

61. An ice cube floats in a tumbler full of water, when the ice melts some water overflow.

62. The essential conditions necessary for the germination of any seed are
(A) Soil water a suitable temperature and carbon
(B) Water light and oxygen
(C) Water Oxygen and suitable temperature
(D) Water darkness and oxygen.
(E) Alternate light and darkness water and oxygen.

63. During respiration
(A) Carbon monoxide is liberated
(B) Nitrogen is formed
(C) Water and carbon dioxide combine to form carbohydrate
(D) Water escapes through living cells
(E) Oxygen and simple sugar combine to from carbon dioxide.

64. Without plants no animal life is possible to exist due to
(A) Lack of oxygen for animals to respire (B) Lack of Food supply
65. A geologist would be most interested in the discovery of a new
(A) Island  (B) Hill tribe  (C) Kind of animal  (D) Kind of Rock

66. The flower is the part of a plant specially adapted to carry on the process of
(A) Seed dispersal  (B) Preparation of food
(C) Reproduction  (D) Storing the food

67. Migration enables birds to continue their existence in spite of the extreme carination in
(A) Atmospheric pressure  (B) Altitude
(C) Temperature   (D) Humidity

68. To which one of the following categories do starch and sugar belong
(A) Carbohydrates   (B) Altitude
(C) Fats    (D) In (A) (B) and (C)

69. Although other stars change their position in the sky the pole star does not this is because
(A) The earth’s axis of rotation is directed to the pole star
(B) It is situated very very far away from the earth
(C) Its period of rotation is exactly equally to that of the earth.

70. Man loses body salt primarily through?
(A) Respiration  (B) Tears  (C) Sweating  (D) Urination

71. Milk if not properly heated rapidly becomes unsuitable for human consumption mainly because
(a) Heating reduces the total water content of the milk through evaporation
(b) Of the influence of certain bacteria present in the year
(c) The molecules of which milk is composed get easily condensed due to leak of temperature
72. Meteors usually become visible at height near about 40 miles from the earth surface which one of the following statements does offer the best support of this fact?

(a) The earth atmosphere extends upto 10% of the earth diameter.
(b) The earth atmosphere extends at least 40 miles fro the earth surface
(c) The meteors due so small that they cannot be seen until they come with in 40 miles from the observer.
(d) The gravitational force of the earth cannot act on the meteors unless it comes with in 40 miles from the earth surface.

Qs for students STAGE 2: PART 4 – Study Habit Inventory (SHI)

(Note: Mark Answer by indicating 1-Agree,2-Neither Agree Nor Disagree,3-Disagree)

1. I frame my own time table to study at home / நான் பெரும்பாலும் “காவை அம்மையாளா” நான் கருதியல்தான்.

2. I work according to my time –table / “காவை அம்மையாளா” நான் பலகிக்கிறேன்.

3. I study regularly in study room. / நான் தனது பலகிக்கிறேன் பலகிக்கிறேன்.

4. I prepare almost all my subject before going to school and read them again at home what ever is done in the class./பலகிக்கிறேன் நிகழ்வு கண்டால் பலகிக்கிறேன் பலகிக்கிறேன். நிகழ்வுகளும் அடைக்கிறேன் மேலே பலகிக்கிறேன் வரும் பலகிக்கிறேன்.

5. I Join tuition classes / கல்லூரிகளிலும் கல்லூரிகளிலும்.

6. I read at place where I get disturbed by radio people’s talk children’s play relatives /வலர்களும் அம்மையாளா பலகிக்கிறேன் வலர்களிலும் பலகிக்கிறேன் வலர்களிலும் நேயையல் நான் பலகிக்கிறேன்.

7. I cannot study well as I keep myself engaged in the domestic work./நான் வலர்களிலும் பலகிக்கிறேன் வலர்களிலும் நேயையல் நான் பலகிக்கிறேன்.
8. I make note of important points during reading.

9. I use dictionary to look up meaning of new words.

10. I pay more attention to new words while studying.

11. I talk down detailed notes of what is being taught in the classroom.

12. The doubtful points which arise during reading are referred to the subject teacher of alacrity.

13. I try to solve at once the difficulties met with while reading.

14. I miss important points while talking notes in the classroom.

15. I read annotations (guides) rather than text books.

16. I underline the important points in my text books while reading.

17. I pay more attention to the subject I fine difficult.

18. I devote more time to study subject in which I am weak.

19. I give priority to studying the difficult subjects.

20. I read the same subject for a long time.

21. I study only that subject I am interested in and leave out the subject which I find uninteresting.

22. I study with concentration.

23. I feel I don’t study at all.

24. My mind goes astray when I read.

25. I understand that I read, but I don’t remember it.
26. In examination I think of the answers of the questions before I start writing them.
27. I get nervous at the time of examination.
28. I read till late at night at the time of examination.
29. I read class notes at the time of examination.
30. I do not study regularly for I get important questions and suggestions at the time of examination.
31. I do not prepare quizzes asked at previous examination thinking that they will not be set again.
32. I memorize definitions, maxims, formulas etc. after understanding them.
33. I discuss the subject read with my friends.
34. I read while reclining on a bed.
35. I read aloud.
36. I try to compare things learnt in one subject with those in another.
37. I ruminate over all things I read.
38. Before I start reading new lessons I briefly revise the lesson read.
39. After reading one paragraph I at once review it mentally.
40. I spend my leisure time at school in reading.
41. I use books from the library.
42. I read newspapers and other books too.
43. I participate in the classroom discussion.
44. I answer the questions asked by the teacher while teaching.

45. I can not progress in my study due to my dislikes for certain teachers and subjects.

Part –I

1. Name of the School : 
2. Year in which Upgraded as
   Higher Secondary School:
3. Types of School :   Boys   Girls   Co-Ed
4. Management of the School:   Govt   Private (Govt Aided)   Self Finance
5. Location of the School :   Village   Town
6. Name of the Teacher : 
7. Sex :   Male   Female
8. Age:

9. Educational Qualification

10. Medium of Institution: Tamil ☐ English ☐ Tamil & English ☐

11. Experience in Teaching Higher Secondary Classes: Years ☐
Details regarding the laboratory facilities in the Higher Secondary Schools.

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<th>Not Sufficient</th>
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<td>36.</td>
<td>Oxalic acid</td>
<td>Yes/No</td>
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<td>37.</td>
<td>Aluminium Sulphate</td>
<td>Yes/No</td>
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<td>38.</td>
<td>Ammonium Carbonate</td>
<td>Yes/No</td>
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<td>39.</td>
<td>Ammonium Chloride</td>
<td>Yes/No</td>
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<td>40.</td>
<td>Barium Chloride</td>
<td>Yes/No</td>
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<td>41.</td>
<td>Calcium Carbonate</td>
<td>Yes/No</td>
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<td>42.</td>
<td>Copper Carbonate</td>
<td>Yes/No</td>
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<td>43.</td>
<td>Copper Chloride</td>
<td>Yes/No</td>
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<td>44.</td>
<td>Copper Nitrate</td>
<td>Yes/No</td>
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<td>45.</td>
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<td>46.</td>
<td>Feric Chloride</td>
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<td>47.</td>
<td>Lead Nitrate</td>
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<td>48.</td>
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<td>Yes/No</td>
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<td>49.</td>
<td>Zinc Sulphide</td>
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<td>51.</td>
<td>Acid bottles (Cone) Etched</td>
<td>Yes/No</td>
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<td>52.</td>
<td>Acid Dropper</td>
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<td>53.</td>
<td>Blue Litmus paper</td>
<td>Yes/No</td>
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<td>54.</td>
<td>Boiling Tube</td>
<td>Yes/No</td>
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<td>55.</td>
<td>Bucket (Plastic/Acid proff)</td>
<td>Yes/No</td>
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<td>Bunesen Burner</td>
<td>Yes/No</td>
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<td>57.</td>
<td>Burette stand</td>
<td>Yes/No</td>
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<td>58.</td>
<td>Burette Washing Brush</td>
<td>Yes/No</td>
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<tr>
<td>No</td>
<td>Name of the Chemical</td>
<td>Availability</td>
<td>Sufficient</td>
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<td>Centrifuge (electrical)</td>
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<td>Centrifuge (manual)</td>
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<td>Centrifuge tubes</td>
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<td>62</td>
<td>Chemical Balance</td>
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<td>Chine Dish</td>
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<td>Clock Glass</td>
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<td>65</td>
<td>Conical Flask (100ml)</td>
<td>Yes/No</td>
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<td>66</td>
<td>Conical Flask (250ml)</td>
<td>Yes/No</td>
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<td>67</td>
<td>Distilled water</td>
<td>Yes/No</td>
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<td>68</td>
<td>Filter Paper</td>
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<td>Funnel</td>
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<td>70</td>
<td>Glass Beaker (1000ml)</td>
<td>Yes/No</td>
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<td>71</td>
<td>Glass Beaker (100ml)</td>
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<td>72</td>
<td>Glass Beaker (250ml)</td>
<td>Yes/No</td>
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<td>73</td>
<td>Glass Beaker (500ml)</td>
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<td>74</td>
<td>Glass Rod</td>
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<td>75</td>
<td>Glass Tubes</td>
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<td>76</td>
<td>Graduated glass burette (25ml)</td>
<td>Yes/No</td>
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<td>Graduated Glass burette (50ml)</td>
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<td>78</td>
<td>Horn Spatula</td>
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<td>Kipps Apparatus (to prepare H₂ S)</td>
<td>Yes/No</td>
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<td>LPG Connection /Gas Plant</td>
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<td>81</td>
<td>Measuring Jar (1liter)</td>
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<td>82</td>
<td>Measuring Jar (100ml)</td>
<td>Yes/No</td>
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<td>83</td>
<td>Mortar and pestle</td>
<td>Yes/No</td>
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<td>84</td>
<td>Nickel Spatula</td>
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<td>85</td>
<td>Pipette (10ml)</td>
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<tr>
<td>No.</td>
<td>Name of the Chemical</td>
<td>Availability</td>
<td>Sufficient</td>
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<td>86.</td>
<td>Pipette (20ml)</td>
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<td>87.</td>
<td>Plastic Beaker</td>
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<td>Pocelain Plate</td>
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<td>89.</td>
<td>Reagent Bottle (100ml)</td>
<td>Yes/No</td>
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<td>90.</td>
<td>Reagent Bottle (250ml)</td>
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<td>91.</td>
<td>Red litmus paper</td>
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<td>92.</td>
<td>Sand Bath</td>
<td>Yes/No</td>
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<td>93.</td>
<td>Spirit Lamp</td>
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<td>94.</td>
<td>Standard Measuring Flask (100ml)</td>
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<td>95.</td>
<td>Standard Measuring Flask (250ml)</td>
<td>Yes/No</td>
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<td>96.</td>
<td>Starch iodide Paper</td>
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<td>97.</td>
<td>Test Tube (20ml- Corning)</td>
<td>Yes/No</td>
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<td>98.</td>
<td>Test Tube (25ml- Corning)</td>
<td>Yes/No</td>
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<td>99.</td>
<td>Test Tube Cleaning Brush</td>
<td>Yes/No</td>
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<td>100.</td>
<td>Test Tube Holder</td>
<td>Yes/No</td>
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<td>101.</td>
<td>Test Tube stand</td>
<td>Yes/No</td>
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<td>102.</td>
<td>Thermometer</td>
<td>Yes/No</td>
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<td>103.</td>
<td>Tongs</td>
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<td>104.</td>
<td>Tripodstand</td>
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<td>105.</td>
<td>Wash Bottle (PVC)</td>
<td>Yes/No</td>
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<td>106.</td>
<td>Watch Glass</td>
<td>Yes/No</td>
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<tr>
<td>107.</td>
<td>Watch Bath</td>
<td>Yes/No</td>
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<td>108.</td>
<td>Water Trough</td>
<td>Yes/No</td>
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<tr>
<td>109.</td>
<td>Weighing Bottle</td>
<td>Yes/No</td>
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<tr>
<td>110.</td>
<td>Weighing Box(Macro)mg and Riders</td>
<td>Yes/No</td>
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<td>111.</td>
<td>Weight Box (Micro)mg and riders</td>
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<tr>
<td>112.</td>
<td>Wire Gauze</td>
<td>Yes/No</td>
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</tbody>
</table>
2. Is there separate chemistry laboratory in your school?  
3. Do you maintain the stock register?  
4. Do you have sufficient work tables?  
5. Is there proper seating arrangements in your lab?  
6. Whether first aid facility available in your laboratory?  
7. Is there proper water supply in you lab?  
8. Could you complete all the prescribed practical’s?  
9. Do you demonstrate the practical’s?  
10. Do you conduct any extra classes for chemistry practical’s?  
11. Do you organize any special practical class for absentees?  
12. Do you highlight the concepts prescribed both in theory and practical’s?  
13. Whether the time allotted for practical’s is sufficient for you to complete it?  
14. Do you conduct any competitions exclusively regarding practical’s?  
15. Do you organize any exhibition by utilizing your lab?  
16. Will you allow your students to utilizing laboratory facilities for participating in inter school exhibition/Model Competition?  
17. Do your make use of electronic balance (Digital) for weighting purpose?  
18. Do you use distilled water for preparing reagents?  
19. Is your Lab has proper ventilation facility?  
20. How do you give volumetric experiments?  
   Could you utilize the service of lab attender?  
21. Number of chemistry Teacher:  
22. Number of students studying chemistry:  
   i. +1 Level  
   ii. +2 Level  
23. Number of Students:  
   | Boys | Girls |  
   | +1 | +2 | +1 | +2 |
LANNING (Pre-instructional)

1. Objectives of the lesson were appropriate: clearly stated rant to the content, adequate and attainable.

2. Content selected was appropriate: relevant and adequate with respect to the objectives of the lesson and accurate.

3. Content selected was properly organized: Logical continuity and psychological organization.

4. Audio – Visual material chosen were appropriate: suited to the pupils and content, adequate and necessary for attaining the objective.

PRESENTATION (Instructional)

5. Lesson was introduced effectively and pupils were made ready emotionally and from knowledge point of view to receive the new lesson: continuity in statements or questions, relevance, use of previous knowledge and use of appropriate device/technique.

6. Question were appropriate: well structured, properly put adequate in number and made pupils participate.

7. Critical awareness was brought about in pupils with the help of probing questions: Prompting seeking further information, refocusing, redirection and increasing critical awareness.

8. Concepts and principles were explained (understanding brought about) with the help of clear interrelated and meaningful statement: statements to create set to conclude, statements which had relevancy, continuity appropriate vocabulary explaining links, fluency and had no vague words and phrases.

9. The concepts and principles were illustrated with the help of appropriate examples through appropriate media (Verbal and nonverbal): simple relevant to the content and interest level of pupils.

10. Pupils attention was secured and maintained by varying stimuli like movements gestures, changing speech pattern, focusing, changing interaction styles, pausing and oral visual switching: Pupils postures and listening observing and responding behavior of pupils.

11. Deliberate silence and nonverbal cues were used to increase pupil participation.

12. Pupils participation (responding and initiating) was encouraged using verbal and nonverbal reinforces.

13. Speed of presentation of ideas was appropriate: matched with the rate of pupils understanding and there was proper budgeting of time.
14. Pupils participated in the classroom and responded to the teacher and initiated by giving their own ideas and reacting to others ideas.

15. The blackboard work was good; legible, neat, appropriateness of the content written and adequate.

CLOSING

16. The closure was achieved appropriately: Main points of the lesson were consolidated, present knowledge was linked with the past knowledge, opportunities were provided for applying present knowledge was linked with future learning (assignment).

17. The assignment given to the pupils was appropriate: Suited to individual differences, relevant to the content taught, and adequate.

EVALUATION.

18. Pupils progress towards the objectives of the lesson was checked and the procedures of evaluation were appropriate relevant to the objectives valid reliable and objective.

19. Pupils difficulties in understanding a concept or principle were diagnosed by step by step questioning and suitable remedial measures were undertaken.

MANAGERIAL

20. Both attending and nonfattening behaviors of the pupils were recognized: Attending behavior was rewarded, directions were given to eliminate nonattending behavior, questions were asked to check [Pupils attending behavior pupils feelings and ideas were accepted and nonverbal cues were used to recognize pupils attending and nonattending behaviors.

21. Classroom discipline was maintained in the class: Pupils followed teacher’s instructions that were not related to the content. Comments (if any).