APPENDIX

QUESTIONNAIRE - 1

INFORMANT'S BACKGROUND INFORMATION

1. NAME :

2. AGE :

3. MALE/FEMALE : M F

4. PRESENT ADDRESS : PERMANENT ADDRESS

5. EDUCATIONAL QUALIFICATION:

<table>
<thead>
<tr>
<th>COURSE</th>
<th>MEDIUM</th>
<th>PLACE</th>
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<tbody>
<tr>
<td></td>
<td>TAMIL</td>
<td>ENGLISH</td>
</tr>
<tr>
<td>a. Hr.Sec./PUC</td>
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<tr>
<td>b. Degree</td>
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<tr>
<td>c. Post Graduate</td>
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6. PARENT'S EDUCATION

<table>
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<td>MOTHER</td>
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</table>
7. Mention your profession
   a. If teacher, State whether you are teaching in which school
      CO-EDUCATION         GIRLS         BOYS
   b. Medium of Instruction:
      ENGLISH          TAMIL
   c. Syllabus pattern that is followed:
      STATE BOARD       CENTRAL BOARD  ANGLO-INDIAN BOARD

8. Your Mother Tongue:

9. Other languages known:
   Name of Languages  Speak  Understand  Read  Write
   1.                   
   2.                   
   3.                   
   4.                   

10. Teaching in which medium is preferred by you
    ENGLISH         TAMIL

11. Do you think that the Tamil Technical terms are efficient in conveying the specific meaning? Explain.
12. How many years of experience do you have in Science teaching?

13. In which process do the students commit errors?
   a. Transliteration/Olpayarppu - Bicycle - cikkì!
   b. Translation /mo:lipayarppu - Bicycle - i:rru!i
   c. Coinage of technical terms/- Bicycle - mitivañti

14. While translating a science passage, which of the following processes do you prefer?
   a. Transliteration
   b. Translation
   c. Coinage of technical terms

15. What in your opinion is the comprehension level of students when teaching science through Tamil Language?

TECHNICAL TERMS

1. alternating current
2. ammeter
3. amperehours
4. amplitude
5. anode
6. bicycle tube valve
7. calcite crystal
8. calorimeter
9. cathode
10. centres of disturbance
11. clevage plane
12. co-efficient
13. coolidge tube
14. degree of polarisation
15. diffraction
16. dioptre
17. disappearing filament pyrometers
18. domestic hot water supply
19. double refraction
20. ebonite
21. edison alkali battery
22. elasticity
23. electron
24. electrophorus
25. etherthermoscope
26. farad
27. frequency
28. galvanometer
29. glancing angle
30. half period zones
31. heat conductor
32. high voltage equipment
33. incident of light
34. induction machine
35. intensity
36. interference with light white
37. isothermal change
38. isothermal line
39. lattice plane
40. lense
41. light exhibit interference
42. lightening arrestor
43. magnetic movement of the magnet
44. magnetron
45. manganin
46. mass energy equivalence
47. metre bridge
48. micro farad
49. microwave
50. modulation
51. momentum
52. motion
53. nanometers
54. nicol
55. optical pyrometer
56. parallel plate capacitor
57. partially polaroid light
58. peltier coefficient
59. photons
60. picofarad
61. piston
62. plane mirror
63. plane of polarisation
64. platinum
65. polarisation of light
66. polarising angle
67. polarising pyrometer
68. polariser
69. polaroid
70. plastic
71. quantums
72. radar
73. radioactivity
74. radiowave
75. redglass filer
76. reflex klystron
77. refraction of light
78. resonance cavities
79. rock salt
80. rotary pump
81. scalar
82. shearing angle
83. shearing stress
84. sign convention
85. solar constant
86. solar radiation
87. strain
88. stress
89. stroboscope
90. symmetry
91. tangent law
92. tank circuit
93. thermal physics
94. thermodynamics
95. thermopile
96. total radiation pyrometer
97. tourmaline
98. transverse wave
99. undamped oscillations
100. tuning fork
101. unit cell
102. velocity
103. vibration magnetometer
104. viscosity
105. viscous force
106. waning
107. water stir pyrheliometer
108. wavelets
109. wave motion
110. waxing
1. **Diffusion Pump**:

The working of the diffusion pump depends on a law of diffusion which states that in a mixture of gases a gas diffuses from a region where its partial pressure is higher to a region where its partial pressure is lower, irrespective of the total pressure in the two regions.

2. **Carnot Engine**:

Any device that converts heat energy into mechanical work is called a Heat Engine. An ideal heat engine was proposed by Carnot and is called the Carnot's Engine.

The Carnot's Engine consists of

1. A source of heat at a high temperature $T_1$. The engine can draw any amount of heat from the source.

2. A cold body at a low temperature $T_2$. It is known as the sink. Any amount of heat can be rejected to the sink.

3. A cylinder with a perfectly conducting base and non-conducting walls. A light frictionless piston moves inside the cylinder.

The working substance is a perfect gas. The gas is enclosed inside the cylinder.
4. A stand with a non-conducting platform. The work substance, namely the gas in the cylinder, passes through four stages of operation in a single cylinder.

3. Properties of X-rays:

1. X-rays travel in straight lines and cast sharp geometrical shadows of opaque obstacles placed in their path.

2. X-rays do not produce heat on bodies on which they are incident.

3. They travel with the velocity of light.

4. X-rays are not deflected by electric or magnetic field. Hence they do not carry electric charge.

5. They produce fluorescence and affect photographic plates.

6. X-rays are not reflected or refracted by ordinary surfaces; this is due entirely to their very short wavelengths. But they are scattered by crystals.

7. They ionise gases through which they pass.
4. **Lightning arrestors**

A lightning arrestor is a device which is used to protect buildings from lightning strokes. It consists of a metal rod with a pointed end fixed on top of the buildings, the other end of the rod being connected to a large copper plate, buried deep in wet earth outside the building when a charged cloud passes over the building, an opposite charge is induced on the pointed end of the lightning arrester, and because the end is pointed, the charge leaks away and neutralises the charge on the cloud. Hence the possibility of violent electrical discharge between the heavy charge on the cloud and induced charge on the building is avoided.

5. **Television**

Radio waves of wavelengths 10 to 1 metre are used in television; wavelengths below 1 metre to 1 cm are used in television relay. Just as sound waves are converted into electrical oscillations, the light from a scene must also be converted into electrical oscillations. For this purpose a good clear image of the scene is obtained on the screen of the television camera. This image is then converted into electrical oscillations by a process called **scanning**.
A beam of electrons falls at the top of the image. This end of the beam is called the exploring spot. The exploring spot starts at the left top corner and travels across the image. Each time the spot reaches the right hand side end it jumps back to the left and starts on the next line. These paths are AB, CD, EF, etc., This procedure is called scanning.

The screen is so constructed that when the exploring spot falls on it, an electric current is generated in an external resistor. This current is proportional to the brightness of the point on which the spot falls. This varying current is the amplified and used to modulate the carrier wave.

Inside the television receiver there is a reproducing spot, which again is one end of an electron beam. This reproducing spot never moves over the phosphorescent screen of the receiver. The strength of the incoming signal. The exploring spot in the television camera and the reproducing spot in the picture tube are kept exactly in step by a suitable technique called Synchronisation.
NAME:          EDUCATION:  
ADDRESS:      OCCUPATION: 
SEX:          
AGE: 

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**SELECTIONAL FACTORS**

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<tr>
<th>Technical terms</th>
<th>Known/unknown</th>
<th>Edu.set-up</th>
<th>Media</th>
<th>Common use</th>
<th>Intelligence</th>
<th>Simplicity</th>
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<td>(1)</td>
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1. alternating current
   ma:ru ticaĭ minno:ttam
   ma:ru minno:ttam
   ma:riyamaikkum mincakti

2. amplitude
   ve:ccu
   alaivi:ccu
   a:mplitityu:ṭ

3. anode
   ne:rmiṅva:y
   ne:rminmunai
   a:no:ṭu

4. bicycle tube valve
   mitivaṇṭikkula:y va:lvu
   mitivaṇṭikkulaḷ tirappi
   mitivaṇṭikkula:y pirpo:kki
5. cathode
etirmĩva:y
etirmĩmmuṇai
keto:tu
6. centres of disturbance
kulaivu maiyam
īṭaiyu:ru maiyam
maiyaṅkukalappam
7. cleavage plane
piḷavuruttalam
aṇikko:vaittalam
kiṅivejtalam
8. degree of polarisation
talavilaivuk koṇam
talavilaivu nilai
talavilaivuttakaivu
9. diffraction
viḷimpu vilaiyu
olivilakal
ṭiprekcan
10. disappearing filament
pyrometer
maraiyum minnilai ventalalma:ni
maraiyum minnilai pairomittar
maraiyum nu:llalventalalma:ni
11. domestic hotwater supply
   vi:ttu venni:rt taravu
   vi:ttu venni:r valanki
   vi:ttu venni:r viniyokam

12. edison alkali battery
   etican ka:raminkalam
   etican ka:raminkala atukku
   etican alkali cel

13. elasticity
   mitciyiyal
   miltanmai
   miltiram

14. elektron
   elaktra:n
   minna nu
   etirmintukal

15. electrophorus
   elaktro:po:ras
   mintulai
   nuntulaippa:n

16. ether thermoscope
   i:tar veppan ka:tti
   i:tar terma:sko:p
   i:tar vepanilai:ka:tti
17. galvanometer
ka:lvana:mi:ttar
minno:ttama:ni
minno:ttta alavi

18. glancing angle
pa:rvai ko:nam
to:tu ko:nam
talunilaikko:nam

19. half period zones
arai alaivuk ka:la manṭalaṅkaḷ
arai alaivu ne:ra manṭalaṅkaḷ
arai alaivu maṇṭalaṅkaḷ

20. high voltage equipment
uyar minnaluttak karuvi
uyar minnalutta ca:taṇam
atika minnalutta ca:taṇam

21. incident of light
paṭukinṭa oli
oliyinpaṭukkai
olivilumnikalcci

22. induction machine
tu:ntu iyantiram
miṇtu:ntal karuvi
tu:ntal karuvi
23. isothermal change
   camaveppanilai nikalvunikala
   camaveppanilai marram
   camaveppanilaik ko:tu

24. isothermal line
   camaveppanilai ko:tu
   camaveppanilaik ko:tu
   camausnk ko:tu

25. lattice plane
   anikko:vait talam
   anivaricaıt talam
   lettis talam

26. lense
   lens
   a:ti
   villai

27. magnetic movement of
   the magnet
   ka:ntattin tiruppur tiran
   ka:ntattin ka:nta iyakkam
   ka:ntattin ka:nta tirupputtiran

28. mass energy equivalence
   nirai a:rral iṇa:rru
   etai a:rral camani
   nirai a:rral camanilai
29. metre bridge
mi:ṭṭar caṇṇacurru
mi:ṭṭar inaicurru
mi:ṭṭar miṇcurru

30. modulation
alaippaṇperram
ma:ṛṛi amaittel
panperram

31. momentum
untam
iyakkam
muṭukkam

32. rock salt
paṭika uppu
intuppu
pa:rai uppu

33. travelling wave tube
iyāṇku alaikkula:y
alai iyakkukula:y
nakarum alaikkula:y

34. water stir pyrohelio-meter
ni:ṛkalakku cu:riya
katirviccumani
ni:ṛkalakku cu:riya
ventalalma:ni
ni:rkalakku katirvi:
ccuma:ni

35. waxing

ceripu valarcci
cerivu atikarittal
kelukkerral
<table>
<thead>
<tr>
<th>Known/unknown</th>
<th>adaptability</th>
<th>economy</th>
<th>uniformity</th>
<th>interlanguage</th>
<th>efficiency</th>
<th>economy</th>
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<td>(1)</td>
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<td>(5)</td>
<td>(6)</td>
<td></td>
</tr>
</tbody>
</table>

1. alternating current

\[\text{alternating current} \]

\[
\text{ma:ru} \text{ti} \text{cat} \text{a} \text{m} \\
\text{ma:ru} \text{min} \text{n} \text{na} \text{t} \text{am} \\
\text{ma:rtiyamaikkum} \text{ min ca} \text{k} \text{ti}
\]

2. amplitude

\[\text{amplitude} \]

\[
\text{vi:ccu} \\
\text{alaivci:ccu} \\
\text{a:mpli} \text{t} \text{iyu} \text{'t}
\]

3. anode

\[\text{anode} \]

\[
\text{ne:rm} \text{in} \text{va} \text{y} \\
\text{ne:rm} \text{in} \text{mu} \text{n} \text{nai} \\
\text{a:no} \text{t} \text{u}
\]
4. bicycle tube valve
   mitivantikkulə:y
   va:lvu
   mitivantikkulal
   tirappi
   mitivantikkulə:y
   pirpo:kkı

5. cathode
   etirminya:y
   etirmimmunai
   keto:tu

6. centres of disturbance
   kulaivumaiyam
   itaiyu:ru maiyam
   maiyakkulappam

7. cleavage plane
   pilavuruttalam
   anikko:vaittaləm
   kilivejtalam

8. degree of polarisation
   talaivilaivuk kor:ham
   talaivilaivu nilai
   talaivilaivu takaiyu
9. diffraction
   vilimpu vilaivu
   olivilakal
   țiprekcan

10. disappearing filament pyrometer
    maraiyum minnilai
    ventalalma:ni
    maraiyum minnilai
    pa:ro:mi:țtar
    maraiyum nu:li:ai
    ventalalma:ni

11. domestic hotwater supply
    vi:țtu venni:rt taravu
    vi:țtu venni:r vala:nki
    vi:țtu venni:r vin:yo:kam

12. edison alkali battery
    etican ka:ramıṅkalam
    etican ka:ramıṅkala
    atukku
    etican alkali cel

13. elasticity
    mi:țciyiyal
    mi:țtańmai
    mi:ltiram
14. electron
   elaktra:n
   minnanu
   etirmintukal

15. electrophorus
   elaktro:po:ras
   mintulai
   nuntulaippa:n

16. ether thermoscope
   i:tar veppanka:tti
   i:tar terma:sko:p
   i:tar veppanilai ka:tti

17. galvanometer
   ka:lvana: mi:ttar
   minno:ttama:ni
   minno:ttaa alavi

18. glancing angle
   pa:rvai ko:nam
   to:tu ko:nam
   taluvunilaikko:nam

19. half period zones
   arai alaiyuk ka:la
   manṭalänka:l
   arai alaiyu nera
   manṭalänka:l
   arai alaiyu manṭalänka:l
20. high voltage equipment
uyar minnaluttak karuvi
uyar minnalutta ca:tanam
atika minnalutta ca:tanam

21. incident of light
patukinra oli
oliyinpatukkai
olivilum nikalcci

22. induction machine
tu:ntu iyantiram
mintu:ntal karuvi
tu:ntal karuvi

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camaveppanilai nikalyu
camaveppanilai marram
camaveppanilaik ko:tu

24. isothermal line
camaveppanilai ko:tu
camaveppanilaik ko:tu
camusnak ko:tu

25. lattice plane
anikkovait talam
anivaricait talam
leitiss talam
26. lense
   lenṣ
   aːṭī
   villai

27. magnetic movement of the magnet
   kaːnatattin tirupput tiran
   kaːnatattin kaːnta iyakkam
   kaːnatattin kaːnta tiruppu
   kaːnatattin kaːnta tiruppu
tiran

28. mass energy equivalence
   nirai aːrral inaimaːrru
   etai aːrral camani
   nirai aːrral camanilai

29. metre bridge
   miːṭtar camanaccurru
   miːṭtar inaiccurru
   miːṭtar mincurru

30. modulation
   alaippanperram
   maːrri amaittal
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32. rock salt
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intuppu
pa:rai uppu

33. travelling wave tube
iyaŋku ailaikkula:y
alai iyakkukula:y
nakarum ailaikkulu:y

34. Water stir pyroheliometer
ni:rkalakku cu:riya
katirviccuma:ni
ni:rkalakku cu:riya
ventalama:ni
ni:rkalakkatirvi:
cum:ni

35. waxing
cererpu valarcci
cerivu atikarittal
kelukerral