APPENDIX - I

INTERVIEW SCHEDULE TO ELICT INFORMATION REGARDING SPORTS WEAR AND SUN PROTECTION PRACTICES AMONG SELECTED ADOLESCENTS

1. Name : 
2. Age : 
3. Sex : Male □ Female □
4. College Address : ................................................................. ................................................................. .................................................................

Tick the Suitable answer

5. Type of sports activity involved
   □ Athlete
   □ Basket ball
   □ Foot ball
   □ Hockey
   □ Cricket
   □ Swimming

Any other specify:

6. Time spent on sports activity daily in hours
   □ 1-2
   □ 2-3
   □ 3-4
   □ 4-5
   □ More than 5
7. Type of sports garment used

<table>
<thead>
<tr>
<th>Boys</th>
<th>Girls</th>
</tr>
</thead>
<tbody>
<tr>
<td>T-shirt and Shorts</td>
<td>Skirt and Top</td>
</tr>
<tr>
<td>Shirt and Pants</td>
<td>Shorts and Top</td>
</tr>
<tr>
<td>Track suit</td>
<td>Full Pants and Top</td>
</tr>
</tbody>
</table>

8. Number of sportswear possessed

- 1-2 sets
- 3-4 sets
- 5-6 sets
- More than 7 sets

9. Type of material used for sports wear.

- Woven
- Knitted
- Any other, (Specify)

10. Whether the garment is

- Ready made
- Tailor made
- Any other specify.

11. Type of washing adopted for sports wear

- Washed at home
- Given to dhobi
- Dry cleaning
- Hand wash
- Machine wash

12. If washed at home tick the type of detergent used.

<table>
<thead>
<tr>
<th>Cake</th>
<th>Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rin</td>
<td>Rin</td>
</tr>
<tr>
<td>Ariel</td>
<td>Ariel</td>
</tr>
<tr>
<td>Surf excel</td>
<td>Surf excel</td>
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<tr>
<td>Power</td>
<td>Power</td>
</tr>
<tr>
<td>Wheel</td>
<td>Wheel</td>
</tr>
<tr>
<td>Henko</td>
<td>Henko</td>
</tr>
<tr>
<td>Surf blue</td>
<td>Surf blue</td>
</tr>
</tbody>
</table>

Any other specify:
13. Type of drying and ironing carried out for sportswear

<table>
<thead>
<tr>
<th>Drying</th>
<th>Ironing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shade</td>
<td>Self</td>
</tr>
<tr>
<td>Sunlight</td>
<td>Dhobi</td>
</tr>
</tbody>
</table>

14. Indicate the problems faced, while playing in the Sun

- Tanning
- Skin burning
- Wrinkles
- Rashes
- Headache
- Burning of eyes

15. Kind of protection taken while playing in the sun.

- Apply sunscreen lotion
- Use cotton sportswear
- Sun glasses
- Use hat/cap

16. Are you aware of harmful effects of ultraviolet rays?

Yes ☐ No ☑

17. If yes, tick the effects caused by harmful ultraviolet rays

- Skin cancer
- Skin tanning and ageing
- Eye damage
- Suppression of immune system

Any other specify:

18. Are you familiar with the factors mentioned below?

a. Sun Protection Factor (SPF) Yes ☐ No ☑
b. Ultraviolet Protection Factor (UPF) Yes ☐ No ☑

19. Are you aware of UV block fabrics / sun protective clothing?

Yes ☐ No ☑
20. If yes, give the sources of information

- Television
- Internet
- Newspaper
- Magazines
- Professionals

Any other (specify)

21. Statements about Clothing and Ultra Violet Radiation are given in the Table. Tick the suitable answer.

<table>
<thead>
<tr>
<th>Statement</th>
<th>SA</th>
<th>A</th>
<th>N</th>
<th>DA</th>
<th>SDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate clothing is required for each season</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Due to ozone layer depletion harmful ultra violet rays reaches the earth and affects human being</td>
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<tr>
<td>Over exposure to Ultra Violet Radiation causes serious health effects</td>
<td></td>
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<tr>
<td>Sun protective clothing is required to prevent harmful effects of Ultra Violet Radiation</td>
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<tr>
<td>Need to create awareness programme among adolescents on the harmful effects of UVR</td>
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</table>

SA – Strongly Agree, A – Agree, N – Neutral, DA – Disagree, SDA – Strongly Disagree
## APPENDIX - II

### VISUAL EVALUATION OF BAMBOO COTTON

<table>
<thead>
<tr>
<th>S.No</th>
<th>Sample</th>
<th>General Appearance</th>
<th>Brilliance of Colour</th>
<th>Evenness of Dyeing</th>
<th>Texture</th>
<th>Lustre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Good</td>
<td>Fair</td>
<td>Poor</td>
<td>Bright</td>
<td>Medium</td>
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</table>
Stay safe in the "SUN"
STAY SAFE IN THE SUN

by

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Professor and Head
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The SUN provides warmth and energy for us. Sunlight is essential for our skin, general health and well being.

ULTRA VIOLET RADIATION

The solar radiation that reaches the earth surface consists of infrared, visible light from red to violet and ultra violet radiation (UVR). Small doses of Ultraviolet solar radiation are beneficial to human beings. But large doses of UV radiation have detrimental effects and cause sunburn, premature skin ageing, skin cancer and eye disorders.

There are three types of Ultraviolet rays.

\< UVA rays = comprise 95% of the radiation that reaches earth. They are ageing rays responsible for premature skin ageing, sun-related allergies and cancer. \>

\> UVB rays = make up 5% of the rays. They are also called burn rays, they are responsible for skin darkening, sun burn, and cause some types of cancer. \>

\> UVC rays = are the most dangerous, but fortunately they are blocked off by the ozone layer.
PREVENTION

Prevention is better than cure. Safety can be achieved by protecting our physique, planning adequate diet and wearing protective clothing.
EYES

- Step outdoors with UV absorbing eye wear.
- Prolonged exposure to UV rays can affect the eyes adversely and lead to cataracts and melanomas.
- Soak some cotton pads in cool rose water and place them over closed eyes for 10 minutes to cool them.
- Wear sun glasses with even shading, medium to dark lenses with UVA and UVB protection.

LIPS

- The lip is a common site for cancer, primarily because of extended sun exposure.
- To fully protect lips:
  - Use a lip balm with SPF 30 or higher.
  - Apply lip product every two hours.
  - Better apply a lip conditioner with SPF for extra moisture and protection.
PLAN ADEQUATE DIET

- Start with a tender coconut.
- Have a breakfast of chilled seasonal fruits – mangoes or watermelons.
- Lunch, a cold soup, a salad, a light dal and roti or brown rice with vegetables followed by buttermilk.
- For the evening try herbal tea with a fruit or a light snack.
- Dinner would include whole wheat pasta or dosa or idli’s or pulses. For non-vegetarians, grilled chickens or steamed fish.
The Three ways of protecting the human skin against UV radiation are reducing the time spent in the blazing sunlight, using sunscreens with a Solar Protection Factor (SPF) and wearing clothing that shields from the sun with a Ultraviolet Protection Factor (UPF).

**PROTECTIVE CLOTHING**

- As far as clothes and accessories are concerned, the trend for summer is to keep it simple. Summer is all about natural fabrics like cotton, linen and new age fabrics like bamboo and tencel.

- Fabrics used for summertime apparel often provide poor protection against ultraviolet radiation because they are usually made from light to medium weight fabrics.

- Fabrics provide simple and convenient protection against UV Protection but not all fabrics offers sufficient UV protection.

- In recent years there has been increasing interest shown in the protective properties of clothing against harmful effects of UV radiation.
A clothing manufacturer can't claim a garment is UV protective unless its Ultraviolet protection Factor (UPF) score falls on the following scale.

### UPF RATINGS AND PROTECTION CATEGORIES

<table>
<thead>
<tr>
<th>UPF Rating</th>
<th>Protection Category</th>
<th>% UVR Blocked</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-24</td>
<td>Good</td>
<td>93.3 – 95.9</td>
</tr>
<tr>
<td>25-39</td>
<td>Very Good</td>
<td>96.0 – 97.4</td>
</tr>
<tr>
<td>40 and over</td>
<td>Excellent</td>
<td>97.5 or more</td>
</tr>
</tbody>
</table>

Over-exposure in the sun does irreversible and permanent damage to the skin, causing ageing, blistering and dryness. Dermatologists are of the opinion that suitable clothing offers more effective protection against UV radiation than applying protective sun screens.
REMEMBER THESE PROTECTION TIPS TO HAVE MORE FUN IN SUN

Don’ts 😞

- Forget to apply sunscreen to those often missed spots like ears, scalp, under eyes, lips, the top of hands, feet, shoulders, neck, behind knees and especially the back
- Forget to cover the arms and legs with loose-fitting, tightly woven clothing. Forget to wear UV blocking sunglasses and a hat with wide-brim all around
- Leave the house before applying one ounce (2 table spoons) of sunscreen to entire body 20 minutes before going outside
- Go for Sunbathe
- Be fooled by a cloudy day the sun’s harmful UV rays can penetrate through clouds and even a thick fog
- Drink caffeine and alcohol
- Go out into the sun suddenly from a cool or air conditioned room or do the opposite
- Use baseball caps as they leave the ears exposed
Have Fun in Sun

SLIP! on a shirt

STAY! in the shade

SLOP! on sunscreen

SLAP! on a hat

SLAM! on sunglasses

SIP! lots of water
**MITTANCE OR BLOCKING OF ERYTHEMALLY WEIGHTED ULTRAVIOLET RADIATION**

**JGH FABRICS**

183:2004

<table>
<thead>
<tr>
<th></th>
<th>Dry</th>
<th>Wet</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF</td>
<td>31.922</td>
<td>284.736</td>
</tr>
<tr>
<td>V-A Transmission</td>
<td>3.722</td>
<td>0.537</td>
</tr>
<tr>
<td>V-B Transmission</td>
<td>3.131</td>
<td>0.305</td>
</tr>
<tr>
<td>Deviation</td>
<td>1.486</td>
<td>51.076</td>
</tr>
<tr>
<td>UPF</td>
<td>&gt;30</td>
<td>50+</td>
</tr>
<tr>
<td>Blocking%</td>
<td>96.277</td>
<td>99.462</td>
</tr>
<tr>
<td>Blocking%</td>
<td>96.869</td>
<td>99.694</td>
</tr>
</tbody>
</table>

The ultraviolet Protection Factor (UPF) is the ratio of the average effective ultraviolet radiation (UV-R) irradiance transmitted and reflected through air to the average effective UV-R irradiance transmitted and calculated through fabric.

The limits of the spectral range of ultraviolet radiation are not well defined and may vary according to the user. Committee E-2.12 of the International Commission of Illumination (CIE) distinguishes in the spectral range between 400 and 100 nm.

- 40 or greater: Excellent UV protection.
- In between 25 to 39: Very Good UV protection
- In between 15 to 24: Good UV protection
- Less than 15: Unclassification
TEST REPORT

Report No. : TR:TX:9440093915

DATE : 21/11/2009

RESULTS

MITTANCE OR BLOCKING OF ERYTHEMALLY WEIGHTED ULTRAVIOLET RADIATION

**Cotton Fabrics**

183:2004

- **Cotton - UV finished**
  - **Dry**
    - UPF: 22.673
    - V-A Transmission: 4.889
    - V-B Transmission: 4.440
    - Deviation: 1.535
    - Blocking%: 95.111
    - Blocking%: 95.559
  - **Wet**
    - UPF: 263.458
    - V-A Transmission: 0.453
    - V-B Transmission: 0.356
    - Deviation: 49.433
    - Blocking%: 99.546
    - Blocking%: 99.644

Test subcontracted to SGS-India Pvt. Ltd., Gurgaon Branch.

*Ultraviolet Protection Factor (UPF)* is the ratio of the average effective ultraviolet radiation (UV-R) irradiance transmitted and blocked through air to the average effective UV-R irradiance transmitted and calculated through fabric.

Limits of the spectral range of ultraviolet radiation are not well defined and may vary according to the user. Committee E-2.12 of the International Commission of Illumination (CIE) distinguishes in the spectral range between 400 and 100 nm.

According to ASTM D6603, the UV protection category is determined by:

- UPF 40 or greater: Excellent UV protection.
- Between 25 to 39: Very Good UV protection
- Between 15 to 24: Good UV protection
- Less than 15: Unclassification

End of Report