Sustainability Index and Green Audit of Higher Education Institutions

Please fill as per the requirements and availability of information seeking the Institution officials.

Institution/College Name: B.L.J. Govt. (P.G.) College Purola, Uttarkashi, Uttarakhand
Affiliated to: Sri Dev Suman Uttarakhand University
District: Uttarkashi
State: Uttarakhand
Mobile WhatsApp no: 9412382678
E-mail: gdcpurola@gmail.com

Name of the Head of the Institution: Dr. Arvind Kishore Tiwari
Designation: Principal
AISHE Code: C-24589
Mobile WhatsApp no: 9412382678
E-mail: drtiwari8ak@gmail.com

Part A

Total number of Faculty members: 15
Total number of non-teaching staff: 11
Total number of students: 683
Is your Institution a women's college or co-education?: Co-Education
Is there a hostel facility: No
Total number of students residing in the hostels: NA

Part B

BASELINE SUSTAINABILITY INDEX ACTIVITY TO BE DONE FOR SENDING THE APPLICATION

MGNCRE Sustainability Index Proforma

Ministry of Education Government of India Department of Higher Education MGNCRE

Can be filled by the Head of the Institution/Faculty Member/IQAC team

* Required
(Simple calculations are required rounded to accuracy)

1. WATER MANAGEMENT

1) Usage of Water (liter / day) in your institution? 16,920 lit/day

HINT: To ensure Usage of water the following estimation needs to be considered by the Higher Education Institutions: i. (No. of Day scholars+ faculty+ staff) X (30 liters) + (No. of hostellers X 100 liters) =

EXAMPLE for Usage of water is given here

To ensure Usage of water in the institution the following quantification needs to be considered by the Higher Education Institutions:
(No. of day scholars+ faculty+ staff) X (30 litres) + (No. of hostellers X 100 litres)
=_____

Example 1:
Total number of day scholar students 1200
Total number of Faculty 45
Total number of Staff 15
Usage of water in the institution= (1200+45+15) X 30 litres
= (1260) X 30 litres
= ***37800 litres***
(No Hostel)

Example 2:
Total number of day scholar students 2100
Total number of Faculty 50
Total number of Staff 25
Usage of water in the institution= (2100+50+25) X 30 litres
= (2175) X 30 litres
= *65250 litres*
Total number of students in hostels 700
So, 700 X 100 litres= *70,000 litres*

Total Usage of water in the institution is 65250+70000 = ***1,35,250 litres***

2. 2) Water Availability for usage (liter / day)? _20,000 lit/day_(HINT: Please observe the above response for water usage and comment accordingly with reference to the present situation of the institution's location and sources of water please use the example given) *

EXAMPLE for Water Availability for usage (liter / day)? Examples

Water Availability for usage (liter / day)?

Consider number of water tanks available on the campus, tank capacity and number of times the tanks are filled per day.

Example 1:

Total number of 10,000 litre tanks available = 4

Number of times the tanks are filled per day = 2 times

So, water made available is 10000 X 4 X 2= **80000 litres**

Example 2:

Total number of 10,000 litre tanks available = 2

Total number of 5000 litre tanks available = 3

Number of times the tanks are filled per day = 1 time

So, water made available is [(10000 X2) + (5000 X 3)] X (1)

= [(20000) + (15000)] X (1)

= [35000] X (1)

= **35000 litres** water is made available

3. 3) Rainwater Harvesting on campus (liter / Season)? NO Example *

and calculation is given below

EXAMPLE Rainwater Harvesting on campus (liter / Season)? ___Nil___ Example c

calculation is given below

Rain Water Harvesting Per Day Per 100 Sq mts	litres
Andaman and Nicobar Islands; Assam and Meghalaya; Arunachal Pradesh	410
Sub-Himalayan West Bengal and Sikkim	230
Nagaland, Manipur, Mizoram and Tripura	295
West Bengal; Orissa; Bihar; Lakshadweep	230
Uttar Pradesh; Himachal Pradesh; Jammu and Kashmir; Madhya Pradesh; Gujarat	180
Haryana, Punjab, Chandigarh and Delhi	98
Rajasthan; Gujarat Saurashtra and Kachchh	65
Konkan and Goa; Kerala; Coastal Karnataka	493
Maharashtra; Andhra Pradesh; Telangana; Karnataka, Pondicherry; Tamil Nadu	131

Map Scale

Example : Government Degree College for Women Hyderabad, Telangana.

Steps:

Open Google Map; next Enter your college name and the district name in the search bar; next Utilize the Satellite view or map view of your college; next Calculate the Area of the in Sq. metres with the help of *map scale* given in the Google map

Rain Water Harvesting per Day per 100 Sq mts of the region = 131 litres

Number of rainy days in rainy season this year = 26 days

Area of the roof top in Sq. metres= (60m X 10m) + (120m X 10m) = 600m² + 1200m² = 1800m² Area of the roof top of **Government Degree College for Women Hyderabad, Telangan**

Apply the formula;

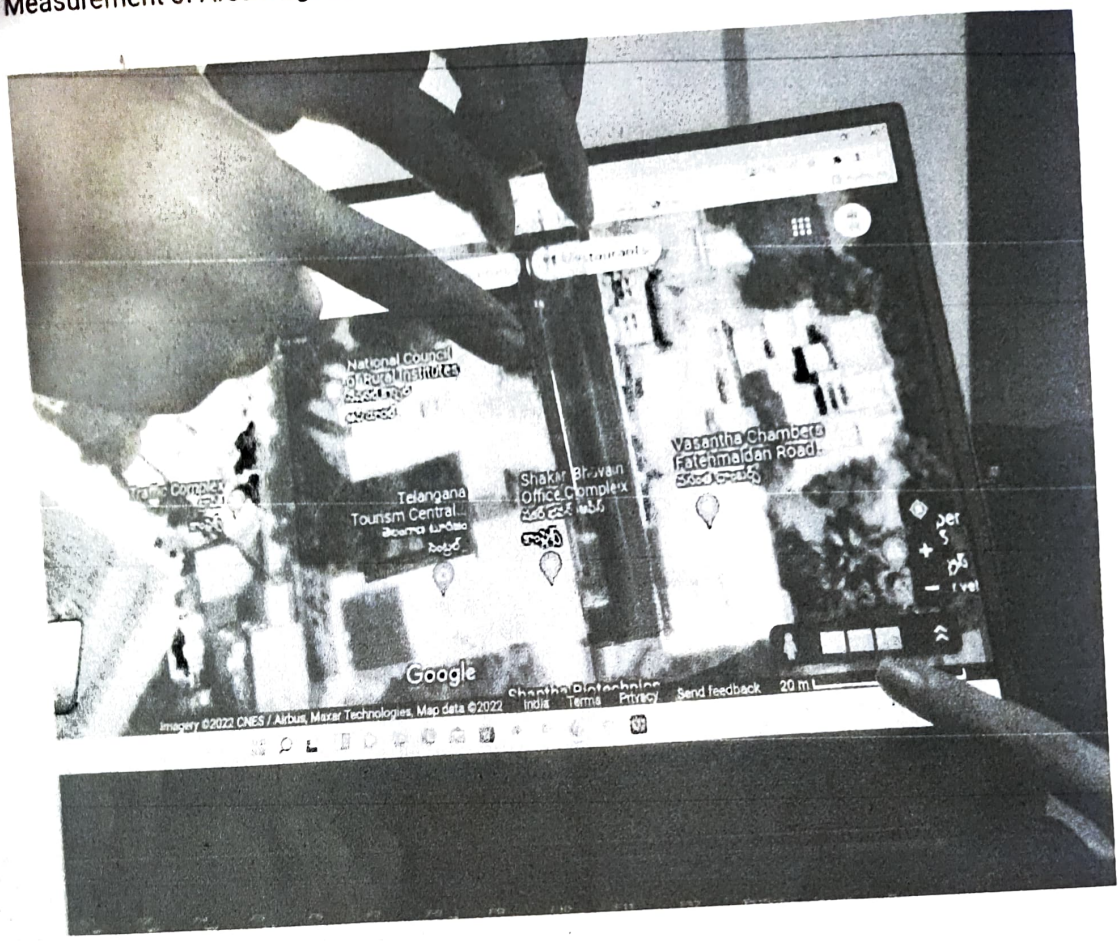
Rainwater Harvesting on campus (liter / Season) =

[Rain Water Harvesting per Day per 100 Sq mts of your region) X (Number of rainy days in rainy season this year) X (Area of the roof top in Sq. metres)] divided by 100 = _____

[131] X [26] X [1800]] Divided by 100 = **61,308 litres**

Scale and Map 4.5 cm=20 meters Using Google map on Mobile or Laptop or compute

Measurement of Area length X Breath.....Scale Example 4.5 cm=20 meters



4. 4) Recycling of water from sewage treatment plant (liter / day) ?

= NIL if applicable ....otherwise mention not applicable

5. 5) Water Sources Audit ? Utilize Swachh Campus Manual *

Mark only one oval.

- Done
- Not yet done

6 SOLAR ENERGY AND ENERGY CONSERVATION 1) Are you a part of installation of renewable energy project (Yes /No) *

Mark only one oval.

- Yes
- No

7. 2) Are you taking any remarkable action for Energy Conservation (Yes /No) *

Mark only one oval.

- Yes
- No

8. 3) Requirement of energy (in Kilowatt or Units / month)? 1 Unit = 1 kWh

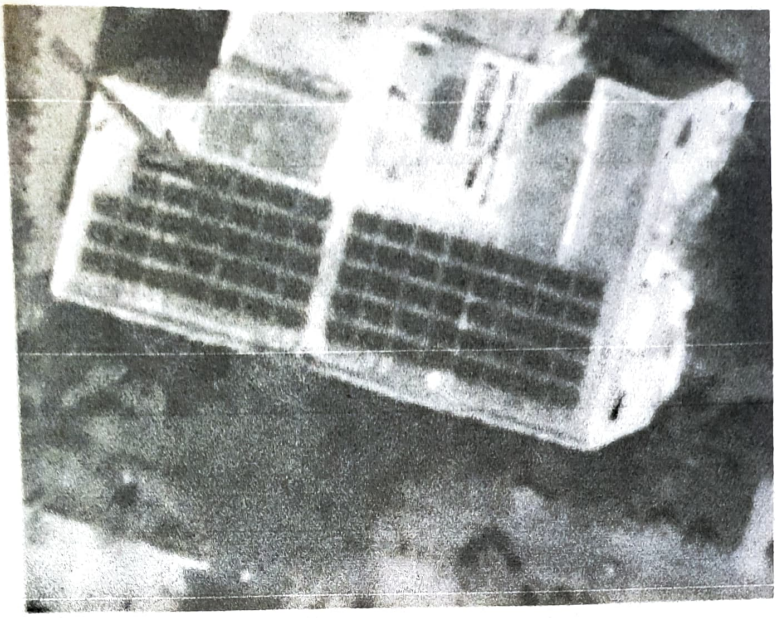
700 unit/month

9. 4) Energy generated via solar (in Kilowatt / month)? if Applicable (HINT: 3 solar panels will generate 4 KWH per day of electricity on a sunny day or 4 Units) *

160 kilowatt/month

EXAMPLE Energy Generated per month

Energy generated via solar (in Kilowatt / month)



Count the number of panels on your college with help of satellite picture from Google map. **3 panels will generate 4 KWH per day** electricity (on a sunny day)

Example: Total 78 panels are there in the picture given above
Energy generated via solar (in Kilowatt / month) =
(Number of panels divided by 3) X (4 KWH) X (30 days)
= (78 divided by 3) X 4 X 30
=26 X 4 X 30
= 3120 KWH

10. 5) % Energy needs met by Solar Energy? Example is given below

22.85%

EXAMPLE for % Energy needs met by Solar Energy

% Energy needs met by Solar Energy =

$$\frac{\text{Energy generated via solar (in Kilowatt / month) X 100}}{\text{Requirement of energy (in Kilowatt/ month)}}$$

Energy generated via solar (in Kilowatt / month) = 1500

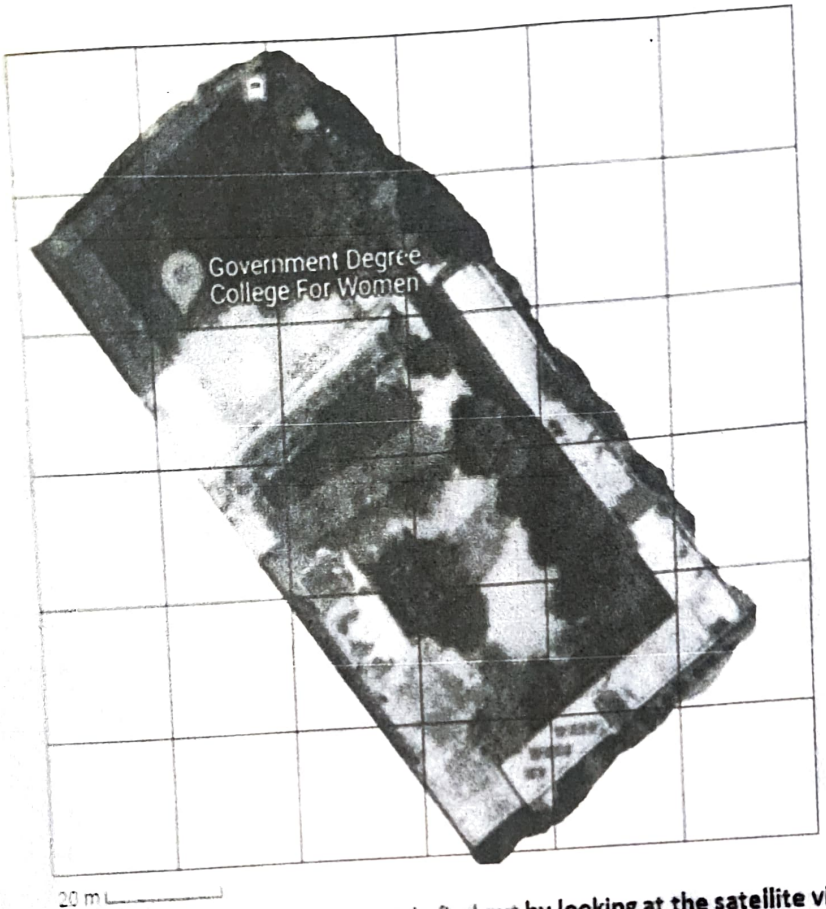
Requirement of energy (in Kilowatt/ month) = 4000

$$\text{\% Energy needs met by Solar Energy} = \frac{1500 \times 100}{4000} = 37.5$$

11. GREENERY MANAGEMENT 1) Area * under green cover (in sq ft or Sq mts or in acre)? 1.5 acre

HINT: Green area includes any area which has grass cover, tree cover and horticulture.

Area under green cover in Sq. mts? EXAMPLE



With the help of the above example find out **by looking at the satellite view** of your college and estimate approximately **the area under green cover and percentage of greenery**

Example: Government Degree College for Women is green cover approximately 30%

Total campus area is= 140 m X 120 m= ***16800 m²***

Total Green Area = (Total campus Area X 30) divided by 100

= (16800 m² X 30) divided by 100

= 504,000 m² divided by 100

= ***5040 m²*** is the Extent of Green Area

12. 2) Availability of Nursery on Campus? (Yes / No) *

Mark only one oval.

- Yes
- No

13. 3) Plant Protection Management availability? (Yes / No) *

HINT: There is a need for managing the protection of plants on the campus on a continuous basis.

Mark only one oval.

- [x] Yes
- [ ] No

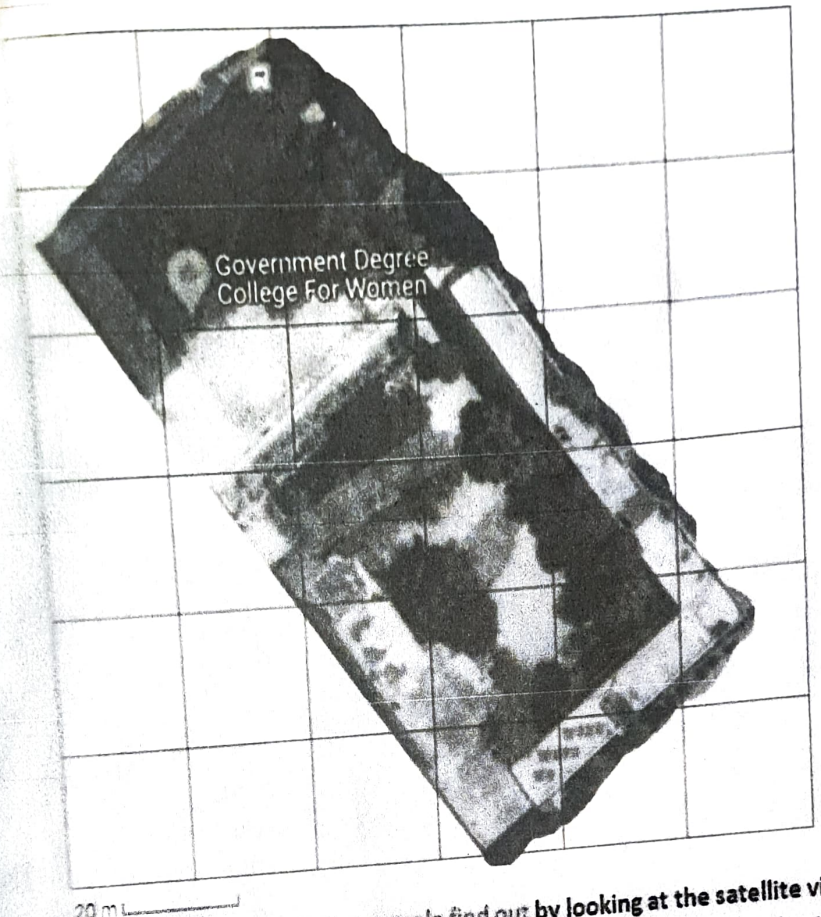
14. 4) Number of plants/tree planted in the year 2021-22? *

100

15. 5) Extent of area (% of area) under tree cover? 40% *

[Usually 33% is better condition]

Same EXAMPLE for the extent of green area in percentage



20 m

With the help of the above example find out **by looking at the satellite view** of your college and estimate approximately **the area under green cover and percentage of greenery**

Example: Government Degree College for Women is green cover approximately 30%

Total campus area is= 140 m X 120 m= ***16800 m²***

Total Green Area = (Total campus Area X 30) divided by 100

= (16800 m² X 30) divided by 100

= 504,000 m² divided by 100

= ***5040 m²*** is the Extent of Green Area

1)

16. WASTE MANAGEMENT

Collection of Solid Waste (kg/day)? 5 kg/day

EXAMPLE is given below

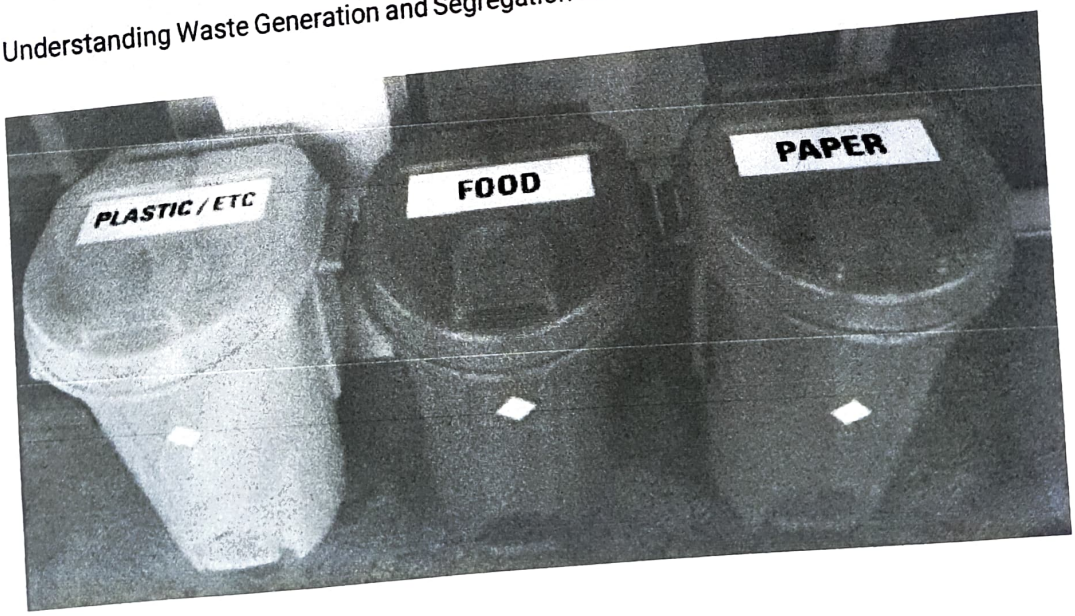
EXAMPLE Collection of Waste per day

Hint: Usually waste per person per day generated ideally for a day scholar is in the range of 50 grams to 150 grams. Usually waste per person per day generated ideally for a hosteller is 200 grams to 350 grams.

Example 1:
Total number of day scholar students 1200
Total number of Faculty 45
Total number of Staff 15
Collection of Solid Waste (kg/day) = (1200+45+15) X 50 gram
= (1260) X 50 grams
= 63000 grams
= 63000 divided by 1000
= 63 Kg /day
(No Hostel)

Example 2:
Total number of day scholar students 2100
Total number of Faculty 50
Total number of Staff 25
Collection of Solid Waste (kg/day) = (2100+50+25) X 50 gram
= (2175) X 50 gram
= *108750 gram*
= 108750 divided by 1000
= 108.50 Kg /day
Total number of students in hostels 700
So, Collection of Solid Waste (kg/day) in hostel =700 X 200 gram = *140000 gram*
= 140000 divided by 1000
= 140 Kg /day
Total **Collection of Solid Waste (kg/day)** is 108.50 + 140 = ***248.5 Kg/ day***

Understanding Waste Generation and Segregation EXAMPLE Picture



Segregation is important!

17. 2) Is segregation of Solid Waste done in the Institute? If yes approx. How many kg of waste is segregated per day? *

5 kg/day

18. 3) Approx. how much of solid waste is recycled every day (Kg/day)? *

Nil

19. 4) Approx. how much of solid waste is disposed (kg/day)? (collected by garbage collectors) *

5kg/day

Waste Disposed Every day

20. 5) Bio Medical Waste management. *

Mark only one oval.

- Yes
- No
- Not applicable

21. 6) Availability of functional drainage system? *

Mark only one oval.

- Yes
- No

22. LAND USE MANAGEMENT for Sustainability or Swachhta activities *

1) Total land (area in Acre) or Sq Meter?

18437.478 sq. meter

23. 2) Constructed area (Approximately in Sq meters)? Hint: Utilize the Google Map picture of your college

3716.1216 sq. meter

24. 3) Total proposed area for development / Open area (Approximately in Sq meters)? Hint: Utilize the Google Mappicture of your college? *

13749.6499 sq. meter

4) Total proposed area for greenery and environmental services including water harvesting and composting (approximately in Sq. meters or Sq Yards or in acre)? *

974.12 sq. meter

26. 5) Whether there is a Land use management plan available for the campus (Yes / No)? *

Mark only one oval.

- [x] Yes
- [ ] No
- [ ] Not applicable

27. Please mention Special Environmental features of your Educational Institution /College/University EXAMPLE is given below *

- The drinking water is connected to RO.
- 40% area is covered under the tree.
- The whole campus is equipped with LED lights.
- NSS and Rover & Rangers groups are engaged in maintaining the newly planted trees.
- The campus is connected to solar light, covering 22% of the energy consumption.

Special Environmental features of your Educational Institution /College/University

EXAMPLE is given below

- All water supply system is connected with RO water for drinking in whole campus and 100% of RO rejected water is used for flushing.
- Maximum possible usage of machines like Chapati Machine, Boiler, Tilting Pan, High Pressure Cooking Ranges, wet & Dry Grinders etc in the hostel kitchens
- Compost Machines' Capacity" 250 kg/day, decomposing garden & kitchen waste, converts it into manure. The food & green waste are used for composting. The excessive compost is given to nearby villages: Lokra, Sidhrawali & Kapriwas etc for the use as a part of CSR activity.
- Number of rain water harvesting pits is 22 for maintaining ground water level.
- 700 KLD STP for treating kitchen & toilet waste, entire campus water is treated having zero discharge outside.
- 84% of total campus comprises of green cover, trees, shrubs etc.
- Solar Cell-Grid connected photovoltaic power system of 246 KW capacity
- Whole campus area is equipped with LED lighting for saving energy.
- Approximately 150-200 families are covered by the efforts of the University
- The student club "Savera" is conducting educational programs with over 100 students of village.

28. PINCODE of the Institution *

249185

Coordinator-IQAC
B. L. J. Govt. Post Graduate
College Purola, (Uttarkashi)

PRINCIPAL
B.L.J. GOVT. P.G. COLLEGE
PUROLA (UTTARKASHI)

07/10/22

PRINCIPAL
B.L.J. GOVT. P.G. COLLEGE
PUROLA (UTTARKASHI)