

# Government College Kottayam



## ANNUAL ENERGY AUDIT 2023-24

INTERNAL QUALITY ASSURANCE CELL (IQAC)

## 1. INTRODUCTION

Government College Kottayam is the only Government Arts and Science College in Kottayam district. The college is affiliated to Mahatma Gandhi University and is included in section 2(F) and 12 B of UGC act, 1956. The college was accredited with A grade by NAAC, in the year 2016. The college is included in the Centre of Excellence Scheme of Government of Kerala. At present, the college offers ten undergraduate and six post graduate programs. All the post graduate departments are approved research centers. The Internal Quality Assurance Cell (IQAC) of Government College Kottayam functions to monitor and enhance the quality of academic and administrative activities of the college by formulating action plans and providing proper guidelines for their implementation.

Energy management has become one of the pivotal elements in any Institution. Being an educational institution, hence, it is important for the college to take steps to conduct an energy audit to identify the present pattern of energy consumption in the college. The Energy Audit was conducted by a committee formed at the behest of the IQAC to study the energy usage and to provide recommendation in connection with the energy consumptions and methods for saving energy. The members of the committees follow:

### Committee 1 (Science Programmes)

Sl. No.	Name and Designation	College
1	Dr. R. Pragash Principal	Government College Kottayam
2	Dr. Prasanna Rajan IQAC Coordinator	Government College Kottayam
3	Dr. Anoop Mathew Assistant Professor of Physics	Government College Kottayam
4	Dr. Sajeev U S Assistant Professor of Physics	RIT, Pampady, Kottayam

## 2. BASIC INFORMATION

Name of the institution	Government College Kottayam
Year of establishment	1972
Campus area	15.5 acres
Location	Nattakom – Ponkunnath Kavu temple road, Nattakom
District and state in which the campus is situated	Kottayam, Kerala
Name of local body in which the campus is situated	Kottayam Municipality
Coordinates	09.556 N 76.511 E
Average height of campus above sea level	18 m
Access	Road – About 100 m from NH183/SH1/Main Central Road Train – About 6 km from Kottayam railway station Air – About 90 km from Kochi International Airport Water – About 500 m from Nattakom inland port
Total built up area	10200 sq. meters
No. of programmes of study	15 Undergraduate – 10 Post graduate – 06
Total Number of students (sanctioned)	1080
Total number of teaching staff	72
Total number of non-teaching staff	33

### 3. DETAILS OF BUILDINGS

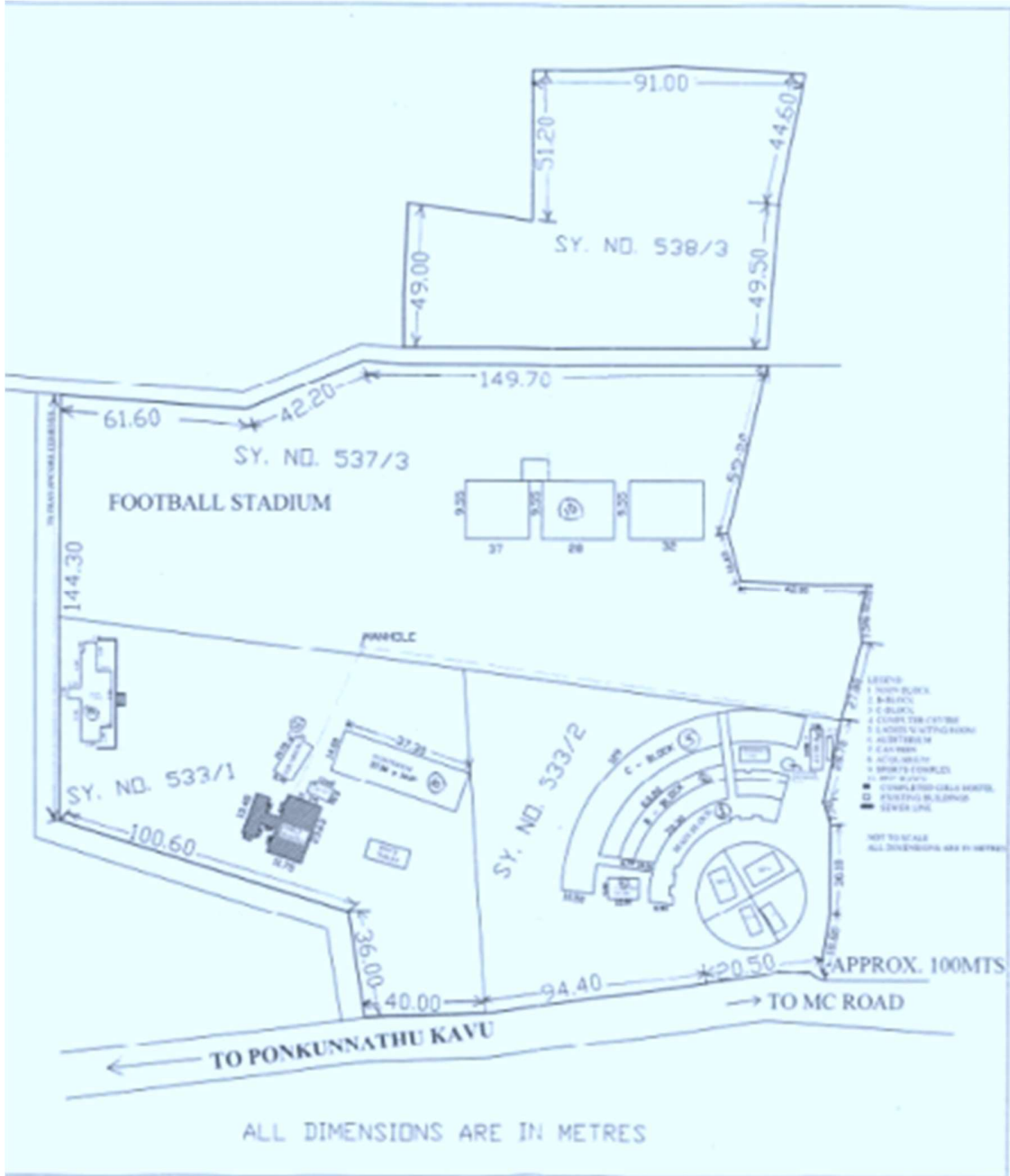
Administrative and academic buildings	<ul style="list-style-type: none"> <li>▪ Main building (administrative cum academic) <ul style="list-style-type: none"> <li>○ Three blocks- Main (A) , B and C</li> <li>○ Three floors</li> </ul> </li> <li>▪ old block (academic) <ul style="list-style-type: none"> <li>○ Single floor</li> </ul> </li> </ul>
Hostels	<ul style="list-style-type: none"> <li>▪ Women’s Hostel <ul style="list-style-type: none"> <li>○ Inside the campus ,two floors</li> <li>○ Roommates: 59</li> </ul> </li> <li>▪ Men’s Hostel <ul style="list-style-type: none"> <li>○ In the campus of Govt. Polytechnic College, Nattakom (50 m from campus), two floors</li> <li>○ Shared with Govt. Polytechnic college</li> <li>○ Roommates: 48</li> </ul> </li> </ul>
Auditorium	<ul style="list-style-type: none"> <li>▪ Seating Capacity: 400</li> <li>▪ Single floor</li> </ul>
Canteen	<ul style="list-style-type: none"> <li>▪ Seating Capacity: 50</li> <li>▪ Single floor</li> </ul>
Other	<ul style="list-style-type: none"> <li>▪ Continuing Education Cell classroom building (Single floor)</li> <li>▪ Continuing Education Cell office building (Single floor)</li> <li>▪ Aquarium building (Single floor)</li> <li>▪ ASAP nodal Centre (Single floor)</li> </ul>

#### 4. BASIC INFRASTRUCTURE (other than available inside buildings)

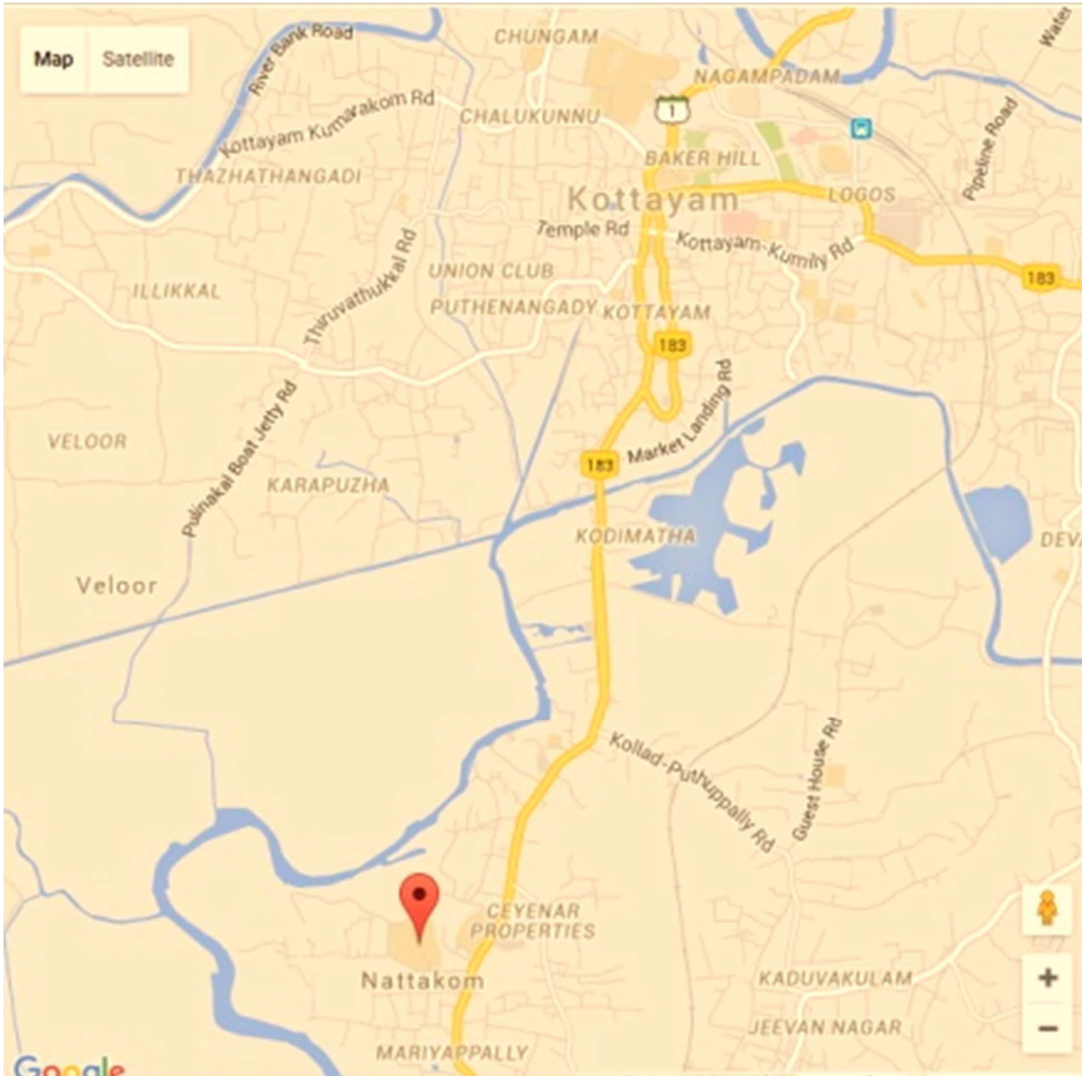
Administrative Building	<ul style="list-style-type: none"> <li>• Near to main building.</li> <li>• Three floors</li> <li>• Ground floor: SN open university office, ORICE room.</li> <li>• Ist Floor: College office, Principal Chamber Second floor: Conference room</li> </ul>
Academic buildings	<ul style="list-style-type: none"> <li>▪ Main building             <ul style="list-style-type: none"> <li>○ Three blocks- Main (A), B and C</li> <li>○ Three floors</li> </ul> </li> <li>▪ Additional building : D block</li> <li>▪ Three floors</li> </ul>
Hostels	<p>Women's Hostel</p> <ol style="list-style-type: none"> <li>1. Inside the campus,             <ul style="list-style-type: none"> <li>• two floors</li> <li>• Roommates: 59</li> </ul> </li> <li>2. Inside the Campus             <ul style="list-style-type: none"> <li>• 3 Floors</li> <li>• Room Mates: 160</li> </ul> </li> </ol> <ul style="list-style-type: none"> <li>▪ Men's Hostel             <ul style="list-style-type: none"> <li>○ In the campus of Govt. Polytechnic College, Nattakom (50 m from campus), two floors</li> <li>○ Shared with Govt. Polytechnic college</li> <li>○ Roommates: 48</li> </ul> </li> </ul>

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5. MASTER PLAN OF THE COLLEGE

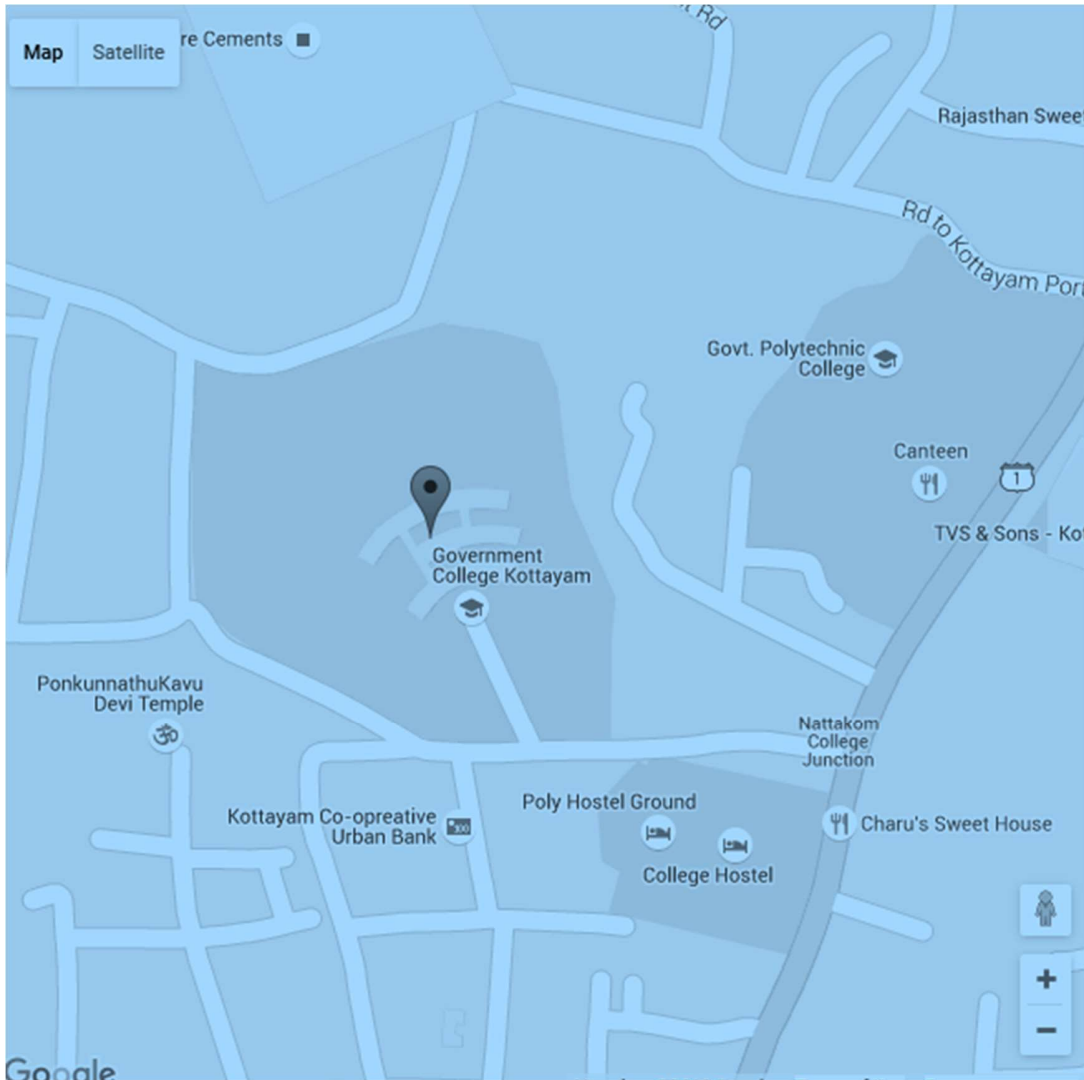


6. LOCATION MAP OF THE COLLEGE CAMPUS (COURTESY: GOOGLE MAPS)

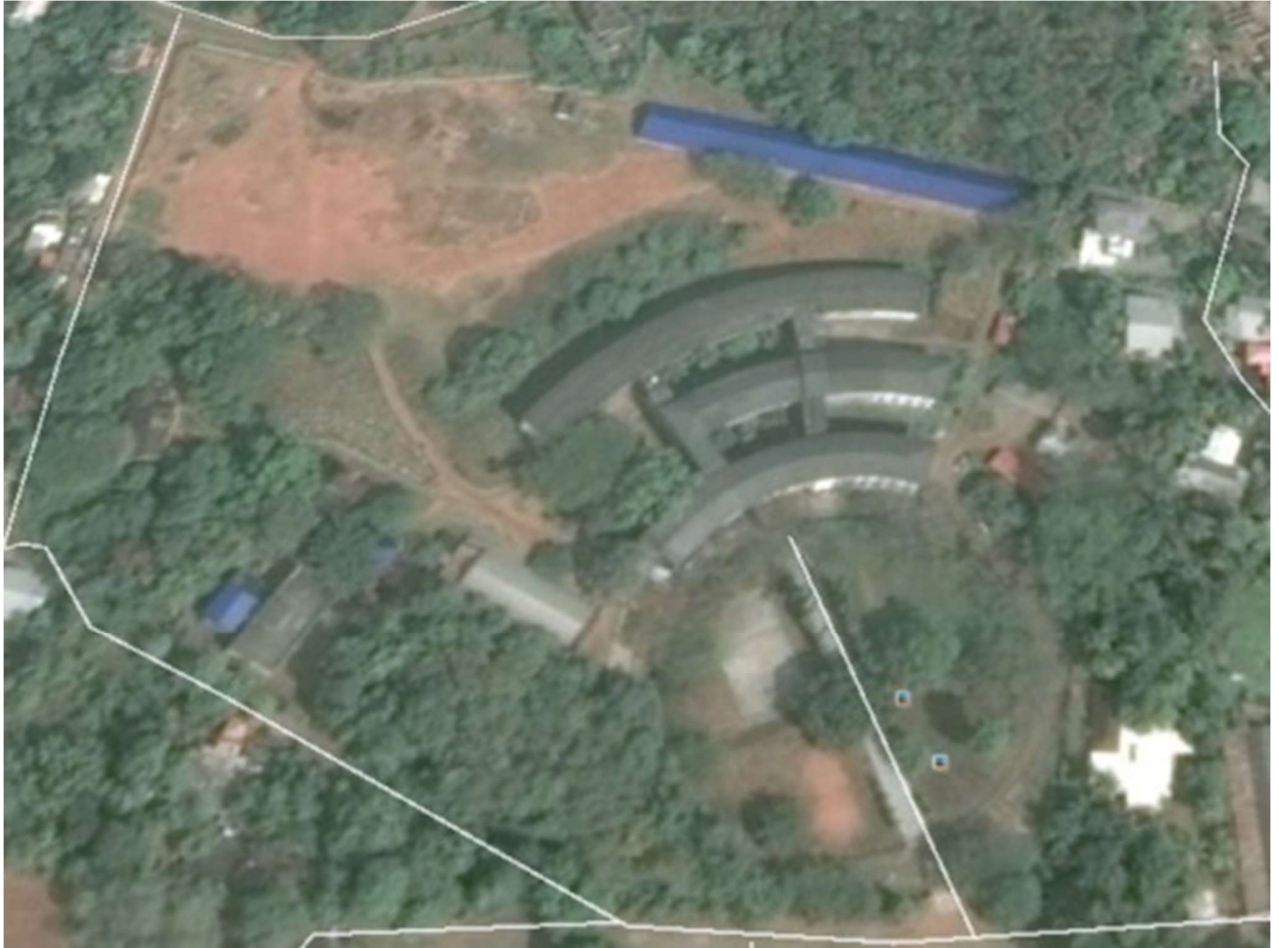




LOCATION MAP OF THE COLLEGE CAMPUS (COURTESY: GOOGLE MAPS)



**SATELLITE MAP OF THE COLLEGE CAMPUS (COURTESY: GOOGLE EARTH)**



## 7. ENERGY USAGE

How does the college meet its energy requirements?	<ul style="list-style-type: none"> <li>▪ Electric connection from KSEB</li> <li>▪ Rooftop solar panel</li> </ul>
Total connected power	~ 40 kW
Total electricity usage per month	~ 3000 kWh
Whether college has exclusive transformer in campus?	YES
Whether generator facility is available?	YES
Details of UPS facility	UPS are installed in Office, departments and laboratories
Major power consumption equipment	<ul style="list-style-type: none"> <li>▪ Water pumps</li> <li>▪ Laboratory instruments</li> <li>▪ Fans and Lights</li> <li>▪ AC</li> <li>▪ Photocopiers and printers</li> <li>▪ Computers</li> <li>▪ UPS</li> </ul>
Whether judicious usage of electricity is ensured?	Yes
Whether energy star rating is ensured in the purchase of equipment?	Yes
Whether LED lighting systems are used?	Replacing the existing to LED
Whether any renewable source of energy is used?	Yes, Roof top solar panel
Potential for renewable energy usage	<ul style="list-style-type: none"> <li>▪ High potential for solar energy generation</li> </ul>

**RECOMMENDATIONS**

- LED lighting system may be implemented.
- The college has a large potential for solar energy production and hence, solar power generation and usage may be encouraged.
- Proper usage of electrical energy should be ensured.

It is hoped that the results presented in this audit will serve as a guide for educating the college community on the existing environment related practices and resource usage at the college as well as spawn new initiatives and innovative practices.

**Name and signature of Energy Auditor (External)**

**Name and signature of Energy Auditor (Internal)**

**Name and signature of Coordinator, IQAC**

**Name and signature of the Principal**