

A Report on

GREEN AUDIT

(GREEN HOUSE GAS EMISSION PATTERN)

A central graphic featuring a realistic globe of the Earth, showing continents and oceans. The globe is encircled by a green recycling symbol, which consists of three chasing arrows forming a triangle. The entire graphic is set against a bright yellow background.

Progressive Education Society's

**Modern College of Arts,
Science and Commerce,**

Shivajinagar, Pune-5

July 2015



Parashurambhau Parasarak Mandali's

PARASHURAMBHAU COLLEGE

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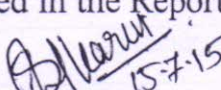
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§ Certificate §

This is to certify that, Progressive Education Society's Modern College of Arts, Science and Commerce carried out Green Audit of their Campus for the Academic Year 2014-2015. It is observed that the college emits 497.65 tons of CO₂e per year with average per capita emission of 72.93 kg CO₂e for this year. The detailed analysis of the GHG emission is presented in the Report.


15-7-15
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Abbreviations

1. PESMCASC: Progressive Education Society's Modern College of Arts, Science and Commerce
2. GHG: Green House Gases
3. CFP: Carbon Foot Printing
4. CO₂e: Carbon dioxide equivalents
5. tCO₂e: tons of Carbon dioxide equivalents
6. kg CO₂e: Kilograms of Carbon dioxide equivalents
7. NAAC: National Assessment and Accreditation Council
8. SPPU: Savitribai Phule Pune University
9. UGC: University Grants Commission
10. DST: Department of Science and Technology, Government of India
11. DBT: Department of Biotechnology, Government of India
12. BCUD: Board of College and University Development
13. ppm: Parts per million
14. IPCC: Intergovernmental panel on Climate Change
15. DTC: Data Collection Tool
16. SDK: Dr. Sunil D Kulkarni, Sir Parashurambhau College, Pune
17. LPG: Liquefied Petroleum gas

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Summary

Progressive Education Society's Modern College of Arts, Science and Commerce (PESMCASC), Pune has consulted Shikshan Prasarak Mandali's Sir Parashurambhau College, Pune for quantifying the green house gas (GHG) emission of their educational campus for the academic year starting from June 2014 to May 2015. This report is prepared by Dr. Sunil D. Kulkarni, Assistant Professor in Chemistry on behalf of Sir Parashurambhau College by adhering to the standards provided by ISO/DIS 14067, 2012. The GHG quantification is done in terms of carbon foot prints (CFP). The carbon foot prints are expressed as Carbon dioxide equivalents (CO_2e).

The College has twenty nine departments that contribute to GHG emission directly or indirectly. The total emission of GHG of the college stands at **497.65 tons of CO_2e** for the academic year. It was observed that the per capita emission of GHG is **72.93 kg CO_2e** for this year. The above values were calculated by considering the number of students and staff reported by the college in its re-accreditation report submitted to National Assessment and Accreditation Council (NAAC). The GHG emission per square meter stands for the college at **41.87 kg $\text{CO}_2\text{e}/\text{m}^2$** . It is observed that, science faculty has maximum emission followed by commerce and arts faculties. The details are discussed in the report.

In India, there is no specific threshold specified by the government or any other agency for maximum emission of GHG by an educational institute but most of the western countries and USA consider 25 kilo tones of CO_2 per year as the maximum permissible threshold for one campus academic institutes. So it can be concluded that GHG emission of Modern College campus is less when compared with international thresholds.

1. Introduction:

1.1 About PESMCASC.....

Established in 1970, Progressive Education Society's Modern College of Arts Science and Commerce, Pune-5, has made considerable progress in last 4½ decades. Affiliated to Savitribai Phule Pune University (SPPU), Pune, the college stands as one of the best colleges in Pune. It runs on both Grant-in aids by the Government of Maharashtra as well as self-financed courses, approved by the Government and Savitribai Phule Pune University (SPPU). It is listed under section 2f and 12B of University Grants Commission (UGC). It is situated in the heart of Pune city at Shivajinagar and has courses for undergraduate and post-graduate in various disciplines. It also has seven University approved research centers which carry out excellent research in the state-of-art and sophisticated facilities where M. Phil. and Ph.D. students are enrolled. It runs 32 skill oriented courses and a diploma course. It has twenty five departments including Gymkhana, Office and Library. The college mainly runs SPPU courses. The fee structure for all the courses is as per the directives of SPPU and the Government. The college was established in 1970 with mission, "To create interdisciplinary best citizens to suit local, national and international needs having scientific temperament, moral, ethical values and multifaceted proactive personalities by providing excellent education".

The college has a long tradition of research and several staff members have ongoing projects. Apart from the earlier recognized four research centers, the college got sanction of SPPU for three more research centers. Over the last 5 years, there has been a remarkable growth in grants received for research and also in number of teachers involved in research. Some teachers have consistently published high quality research papers regularly in national as well as international journals of repute. Some teachers have a long standing collaboration with national institutions and also with international experts; as a result, some research papers are published individually and in collaboration with internationally renowned scientists. The projects funded by DST (including DBT), UGC, BCUD (University of Pune), etc., cover a large number of topics under basic, applied and interdisciplinary research areas. There is no shortage of funds for research, yet the Institution now has made budgetary provision of definite amount available as seed

money as an encouragement to undertake research. There are 12 recognized research guides and most of them have guided more than 2 students successfully for Ph.D. during the last 5 years. Some departments have excellent study material collected over several years. The college has received substantial amount from above research funding agencies during 2010-15.

1.2 Origin of the Green Audit Project:

There is a wide acceptance that increasing emissions of greenhouse gases (GHGs), due to the social demands for energy from consumer lifestyles is resulting in rising temperatures of the globe, the phenomenon widely regarded as global warming. Measurements taken in 2005 indicate that emissions of dominant GHGs have reached 379 ppm; comparable to the pre-industrial era value of 280 ppm. Such emissions, resulting from the industrialization and development of modern society, are considered to be having a pronounced effect on the chemical make-up of the life supporting systems of the Earth. Thus, it is necessary to identify sources of emissions for future reduction. The best way to assess the GHG emission is by quantifying the carbon foot prints. Carbon foot print is the measure of impact of our anthropological activities on the environment.

A carbon footprint can broadly be defined as a measure of the greenhouse gas (GHG) emissions that are directly and indirectly caused by an activity or are accumulated over the life stages of a product or service, expressed in carbon dioxide equivalents. According to the Intergovernmental Panel on Climate Change (IPCC), there are a total of 18 greenhouse gases with different global warming potentials, but under the United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto protocol, only the following gases are considered for the purposes of carbon accounting.

- Carbon dioxide, CO₂
- Methane, CH₄
- Nitrous oxide, N₂O
- Hydrofluorocarbons, HFCs
- Perfluorocarbons, PFCs
- Sulphur dioxide, SO₂.

There are two main approaches for calculating carbon footprints: top-down and bottom-up methods. While the former is based on input-output data and generally useful for sector level or country level analyses, the latter is based on life-cycle analysis that accounts for emissions of individual items from cradle to grave. For large entities and institutions, it is usually necessary to integrate the two methods for a more comprehensive carbon accounting analysis.

1.3 Objective of the present studies:

With the availability of funding, resources, manpower, and the conducive environment for teaching-learning process and research, educational institutes consume a lot of resources that lead to emission of GHGs in the atmosphere with potential of global warming. Measuring the quantity of GHG emission is now regarded as an important step for improving the optimum use of resources and may also help in identifying the source of emission. But one has to also note that, per capita emission of carbon or consumption of energy is also an important criterion for development. So any institute must have a proper balance of GHG emission and carbon neutrality. Such an audit of GHG emission is then useful in use of resources with maximum efficiency and also plays an important role in cost management and savings in terms of money and resources and better asset management. It can also be helpful in prohibiting/resisting the misuse of available resources. In the present project bottom up approach is used for determination of CFPs of PESMCASC.

It is mandatory for educational institutes to perform green audit of their campus according criterion 7 mentioned by NAAC.

1.4 Scope of the Project:

In view of the above objectives, the carbon foot prints of Modern College, Pune are calculated for the academic year starting from June 2014 to May 2015 considered as a base year for further calculations. The emission sources were identified by detailed survey of the campus. Specific questionnaires were prepared according to the nature of

the departments in the college. These questionnaires were used as a data collection tool. The major emission sources are identified as fuel, water, electricity, paper, travel by students and faculty for academic purpose and their transport. The emission factors for calculations were taken from standardizing agencies wherever possible but emission factors specifically for use of chemicals in laboratories were evaluated by assuming their complete oxidation leading to formation of CO_2 . It is understood that, these gross assumptions may introduce uncertainty to some extent in the final calculation. The report also includes specific recommendations for complete carbon neutrality of the PESMCASC campus.

2. Methodology and Protocols:

2.1 General Protocol:

The following protocol was followed:

- (1) Modern College, Pune approached S.P. College, Pune for third party quantification of GHG emission from the campus.
- (2) S. P. College appointed Dr. Sunil D. Kulkarni (SDK) of Department of Chemistry for the project.
- (3) Duration of the project was 75 days.
- (4) Following flowchart (Figure 1) shows the steps involved in the project from start to end.

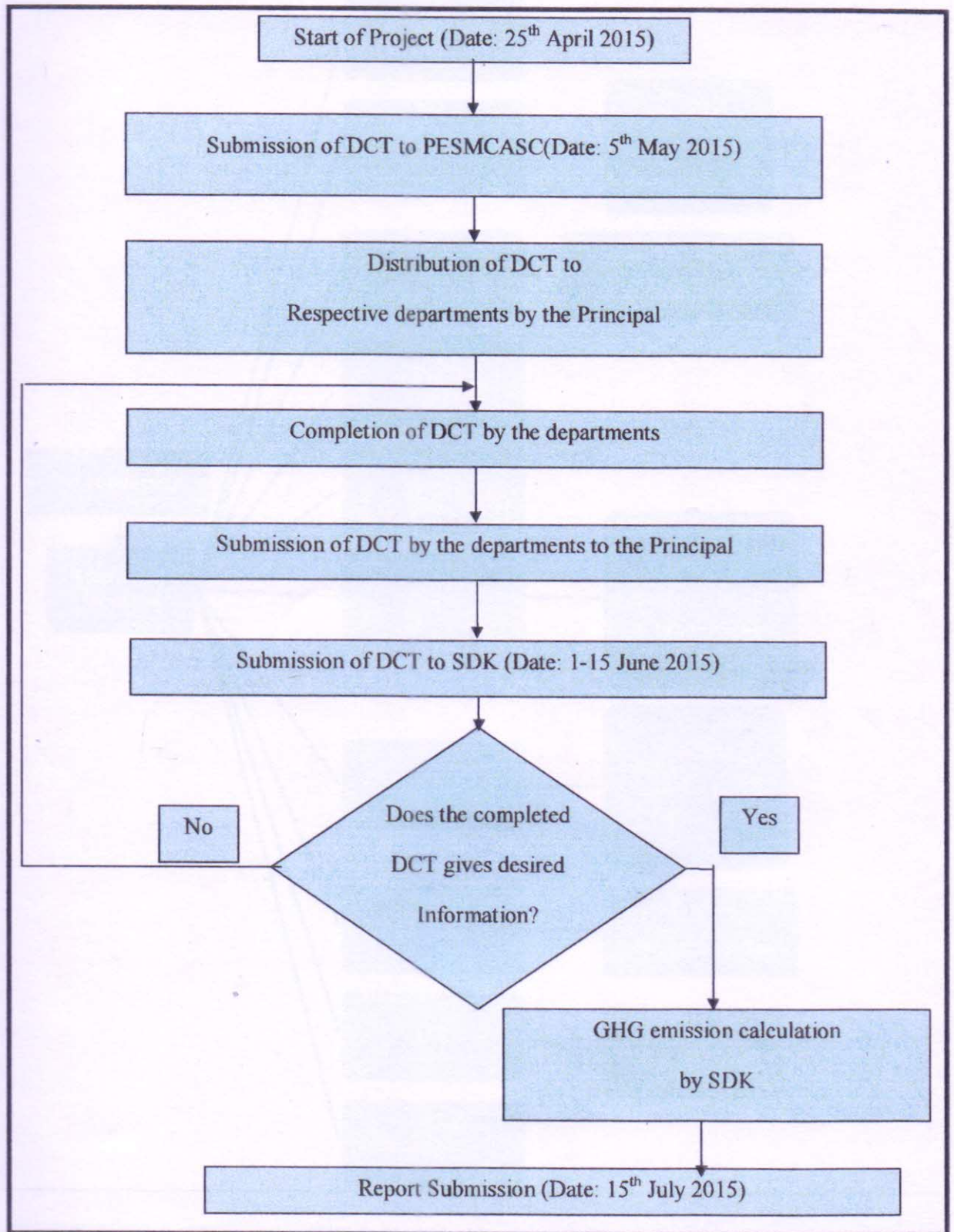


Figure 1: Steps involved during the course of the project

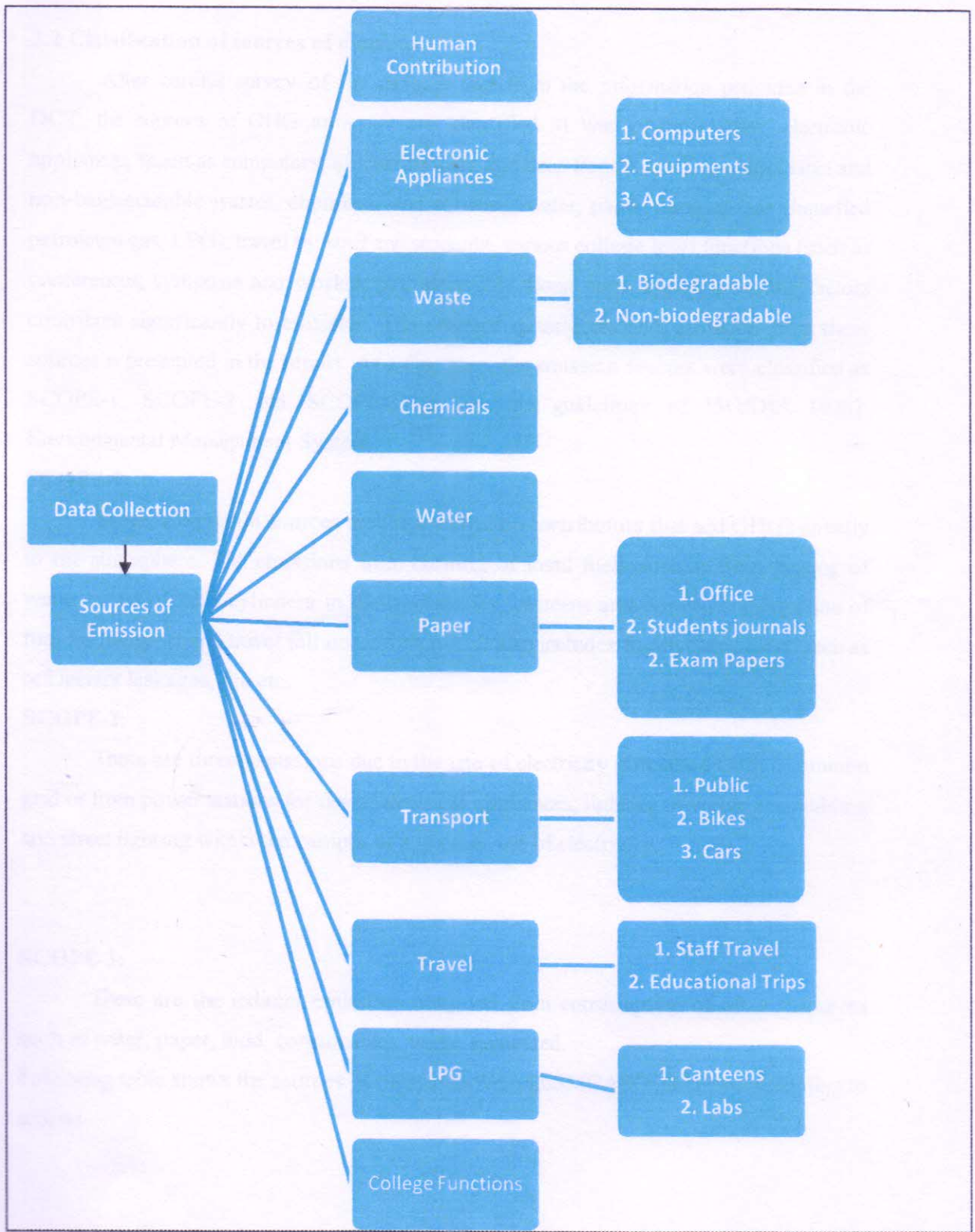


Figure 2: Sources of Emission of GHGs identified by using DCT

2.2 Classification of sources of emission

After careful survey of the campus and from the information provided in the DCT, the sources of GHG emission are identified. It was observed that, electronic appliances, (such as computers, air conditioners and deep freezers etc), biodegradable and non-biodegradable wastes, chemicals and solvents, water, paper, cooking gas (liquefied petroleum gas, LPG), travel by staff and students, various college level functions (such as conferences, symposia and workshops), electricity along with human breathing factors contribute significantly to emission. The detailed quantification of emission from these sources is presented in the report. As a first step, the emission sources were classified as SCOPE-1, SCOPE-2 and SCOPE-3 as per the guidelines of ISO/DIS 14067: Environmental Management System.

SCOPE-1:

Scope-1 emission sources are those emission contributors that add GHGs directly to the atmosphere. The emissions from burning of fossil fuels such as from heating of water or use of LPG cylinders in the laboratories, canteens and hostels, consumption of fuel for transport and travel fall under Scope-1. It also includes fugitive emissions such as refrigerant leakages, fire etc.

SCOPE-2:

These are direct emissions due to the use of electricity purchased from a common grid or from power stations for use of electrical appliances, lighting of within the building and street lighting within the campus or any other use of electricity.

SCOPE-3:

These are the indirect emissions obtained from consumption of other resources such as water, paper, food, consumables, waste generated.

Following table shows the sources of emissions from PESMCASC classified according to scopes.

Table 1: Classification of sources of emission from PESMCASC

Sr. No.	Scope	Source/Activity
1	SCOPE-1	(1) Use of LPG, (2) Transport of staff, (3) Human breathing
2	SCOPE-2	(1) Electricity
3	SCOPE-3	(1) Travel of staff and educational trips, (2) waste, (3) paper, (4) Ink, (5) Toners, (6) Events etc.

3. Analysis of the Data

3.1 Scope wise distribution:

Analysis of data obtained through DTC, showed that Scope 1 contributes 54%, Scope 2 contributes 14% and Scope 3 emission sources contribute almost 32% of the total emission of PESMCASC.

In the present case the scope 1 sources identified are transport of the staff, use of LPG and human factors. These sources are so primary that very little can be done to lower the extent of emission. However car pooling among the staff coming from same area in the city to college, use of renewable energy powered heating appliances instead of LPG powered one may significantly lead to lowering of Scope 1 emission.

Electricity purchased from the common grid or directly from power plant is only emission source in Scope 2. In India, electricity comes from public sector companies through a common grid. Variety of fuels contribute to grid such as non-renewable like coal, naphtha, diesel, nuclear (Non-renewable fuel sources contribute 95% to total electricity being generated) and renewable like (whose contribution is low at 5% of total electricity) solar, wind, hydro-electricity etc. It should also be noted that 80% of total electric power generation stations run on coal which as it is known is one of the dirtiest source of electricity.

Analysis of data from Modern College showed that, a significant 14% of GHG emission comes from electricity i.e. Scope 2.

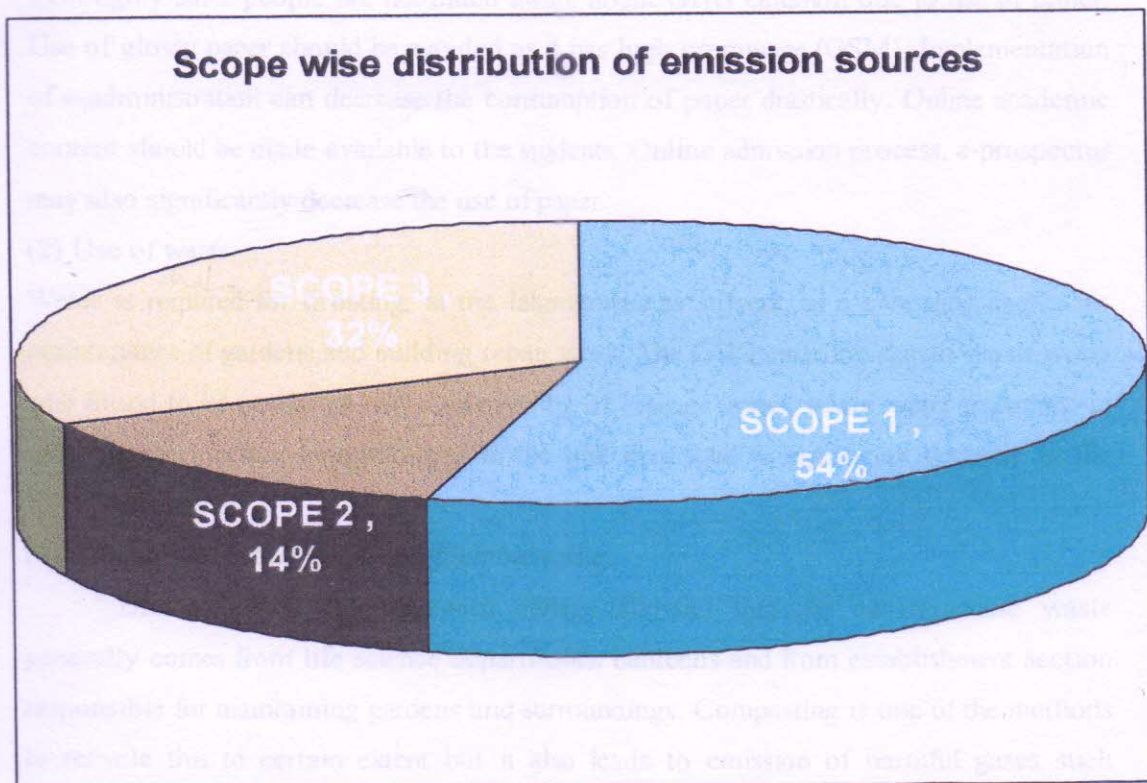
Few recommendations can be made to reduce the scope 2 emission.

- (1) Increase the use of renewable energy sources. (The college has already taken the initiative by installing two solar power stations of 2 kW each that power applications like instrumentation laboratories, elevators in case of emergency). Roof top solar power panels may also be installed.
- (2) Proper and routine maintenance of electricity consuming equipments such as computers and peripherals, laboratory instruments, air conditioners, deep freezers and refrigerators etc. should be carried out and recorded.
- (3) Switching of fans, electric bulbs when not in use and if possible transfer to low electricity consuming light sources such as LEDs and star rated electronic gadgets. An

arrangement may be worked out such that every day, for one hour all the lights, fans and electronic appliances that are not absolutely essential are switched off.

Scope 3 emission sources add GHG indirectly to atmosphere through consumption of resources like paper, water, educational trips and tours in addition to biodegradable and non-biodegradable waste. Data analysis for PESMCASC showed that about 32% of emission of GHG comes from these indirect sources. Since these are the sources of emission due to consumption of resources, the emission can be lower significantly by considering some of the recommendations in the preceding sections of this report.

Figure 3: Contribution to total GHG emission from emission sources classified as Scope 1, Scope 2 and Scope 3.



3.2 Analysis by Emission source wise Distribution:

Emission source wise contribution to GHG emission of PESMCASC is shown in the Figure 10. Although human factor contribute 28% of total emission, its effect will not be discussed here as it is understood that breathing by humans is a natural process and its contribution is offset by green cover in the campus. Other notable GHG emission contributors are use of electronic appliances, transport and commutation of teaching and non-teaching staff, use of paper in addition to that of chemicals in the laboratories, water and everyday waste generated.

(1) Use of paper:

For any academic institute, use of paper is indispensable. Paper is required for administrative purpose, students' journals and manuals, examination booklets etc. So judicious consumption of paper should be done and its use should be monitored thoroughly since people are not much aware about GHG emission due to use of paper. Use of glossy paper should be avoided as it has high grammage (GSM). Implementation of e-administration can decrease the consumption of paper drastically. Online academic content should be made available to the students. Online admission process, e-prospectus may also significantly decrease the use of paper.

(2) Use of water:

Water is required for drinking, in the laboratories as solvent, as a cleansing agent, for maintenance of gardens and building repair work. The GHG emission due to use of water was found to be nearly 15 tCO₂e. Recycling of sewage water, waste water treatment in the laboratory before being drained in the sink may lead to significant decrease in the CFP due to water.

(3) Biodegradable and non-biodegradable waste:

Data collected from Modern college showed that the biodegradable waste generally comes from life science departments, canteens and from establishment section responsible for maintaining gardens and surroundings. Composting is one of the methods to recycle this to certain extent but it also leads to emission of harmful gases such methane to the atmosphere. Hence the conversion factor for this type of waste is one kilogram of this waste generates almost 1.5 kilograms of GHGs. So care should be taken

at this type of waste generated. However since this type of waste can be degraded by microbes, it does not remain in the environment for long time.

Non-biodegradable waste generally is from waste glass, plastics, building materials including steel and cement and many such things in the laboratories. The conversion factor for this type of waste is just one kilogram of this generates 0.125 kg GHG as this type of waste can be recycled to 100% extent. But if this does not happen then conversion factor becomes 10 kg GHG /kg of waste. So it is a common responsibility of every stakeholder (Teachers, students, non-teaching staff, administrative staff and the college management) to ensure that this type of waste should be recycled. During a discussion with Respected Principal, Dr. R. S. Zunjarrao, in one of the meetings, he revealed that the college is moving towards zero garbage state. This excellent step may definitely improve the carbon credits of the college.

This also calls for one of the recommendations that the dry (generally non-biodegradable) and wet (generally biodegradable) waste should be separated with utmost care and disposed off as per the norms or recycled.

(4) Chemicals:

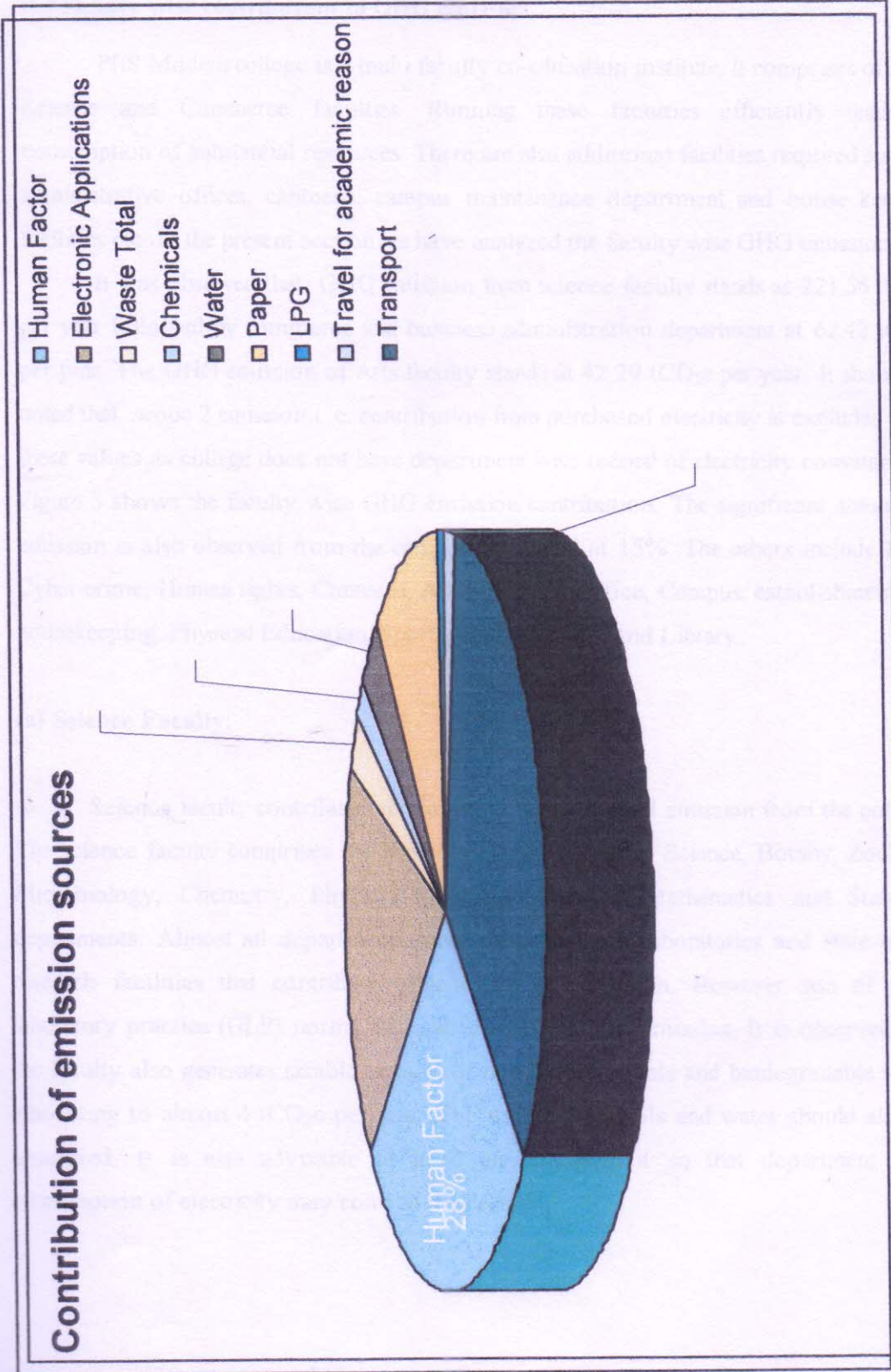
Environment and the atmosphere are extremely sensitive towards organic and inorganic chemicals, heavy metals, hydrocarbons including chlorofluorocarbons and polymers. Uncontrolled and unmonitored use of chemicals leads to soil contamination with long time hazards, air pollution (Ex. Ozone hole), water pollution (becomes unusable for drinking and irrigation). In the present studies, it was found that only five laboratories in the college viz. Biotechnology, Botany, Microbiology, Chemistry and Physics use chemicals directly or indirectly. It should also be noted that the duration for which most of these labs are open is also very less (around 6 to 7 months for general purpose labs and 9 to 12 months for research labs). The carbon foot prints due to use of chemicals is found to be around 7 tCO₂e per year. Although the contribution from chemicals seems to be small as compared to other sources (a total of 2%) but per capita emission due to chemicals will definitely higher considering the number of students and duration.

Following are few recommendations for the laboratories involving chemicals

- (1). Use the solutions as dilute as possible and employing the micro techniques of analysis will have an added advantage.
- (2) Instrumental methods of analysis of materials should be preferred instead of conventional methods wherever possible particularly for research and advanced courses.
- (3) Students should be made aware of harmful effects of chemicals if they are not used judiciously. (A special training program for students may be undertaken at the start of academic year in this regard)
- (4) Water quality (before and after use) should be checked frequently for parameters such as hardness, pH, conductivity, dissolved solids, chemical oxygen demand (COD) and biological oxygen demand (BOD).
- (5) Educational tours and Academic Travels by the staff:

Since Educational tours are the important part of curriculum, one can not have much control on its GHG emission. However few suggestions/recommendations may be followed wherever possible. (1) Hiring of CNG/LNG/LPG i.e. gaseous fuel run buses instead of liquid fuel run vehicles. (2) Choosing a common location for a class because different locations for a class may result in high GHG emission.

Figure 4: Contribution of emission sources to total CFP of PESMCASC



3.3 Faculty wise contribution to GHG emission

PES Modern college is a multi faculty co-education institute. It comprises of Arts, Science and Commerce faculties. Running these faculties efficiently leads to consumption of substantial resources. There are also additional facilities required such as administrative offices, canteens, campus maintenance department and house keeping facilities etc. In the present section we have analyzed the faculty wise GHG emission.

It was observed that, GHG emission from science faculty stands at 221.56 tCO₂e per year followed by commerce and business administration department at 62.42 tCO₂e per year. The GHG emission of Arts faculty stands at 42.29 tCO₂e per year. It should be noted that, scope 2 emission i. e. contribution from purchased electricity is excluded from these values as college does not have department wise record of electricity consumption. Figure 3 shows the faculty wise GHG emission contribution. The significant amount of emission is also observed from the category, 'Others' at 15%. The others include EVS, Cyber crime, Human rights, Canteens, Administrative office, Campus, establishment and housekeeping, Physical Education, Sports, NCC and NSS and Library.

(a) Science Faculty:

Science faculty contributes to almost 58% of the total emission from the college. The science faculty comprises the Biotechnology, Computer Science, Botany, Zoology, Microbiology, Chemistry, Physics, Electronic Science, Mathematics and Statistics departments. Almost all departments have well equipped laboratories and state of art research facilities that contribute significantly to emission. However use of good laboratory practice (GLP) norms may significantly reduce emission. It is observed that the faculty also generates sizable amount of non-biodegradable and biodegradable waste amounting to almost 4 tCO₂e per year. The use of chemicals and water should also be optimized. It is also advisable to have an arrangement so that department wise consumption of electricity may come to the records.

Science faculty department contribution of GHG emission:

Figure 6 shows the GHG emission pattern of various departments in the science faculty. The major contributors are Chemistry, Biotechnology, Botany, and Computer Science. It should also be noted that, all major contributors have post graduate courses in the respective subjects leading to more consumption of resources which may be the reason behind observed figures. Mathematics and Statistics do not contribute significantly because they do not need laboratories that consume a lot of resources in the form of consumables.

Important observation can be made if per capita CO₂e are determined for each department. For example, if the case of chemistry is considered, it can be seen that they contribute 19% of the total emission of science faculty which stands at 41.83 tCO₂e per year but per capita emission comes out to be 70.43 kg CO₂e per year whereas in the case of Biotechnology, they contribute 27.83 tCO₂e per year with 13% contribution to total but per capita emission stands at 139.14 kg CO₂e per year that is almost twice that of chemistry. Figure 7 shows a bar graph that gives the per capita emission of GHG by science departments. Minimum per capita emission is shown by mathematics and statistics departments of 16.11 and 12.38 kg CO₂e per year per person.

Figure 6: Science Faculty: Department wise contribution to GHG emission.

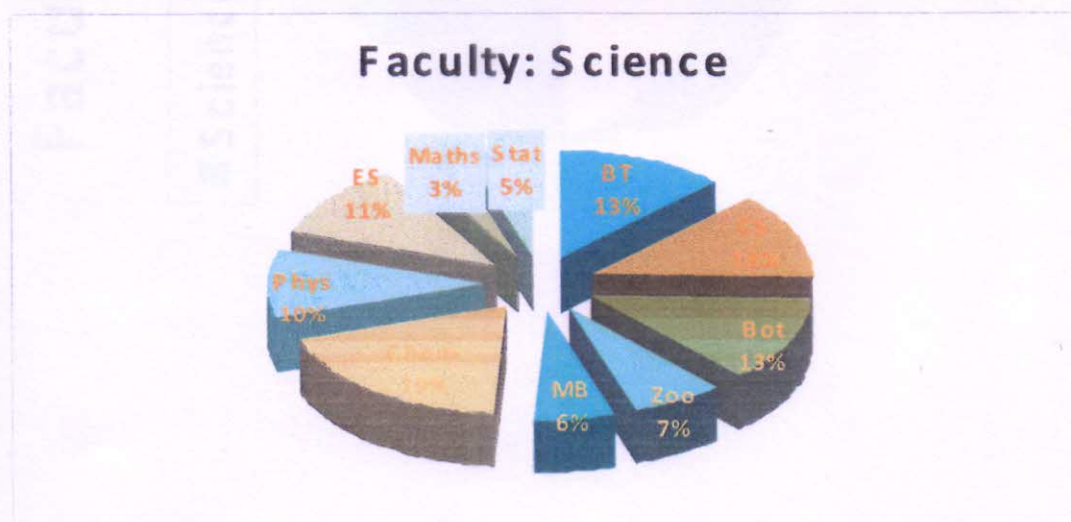


Figure 5: Green house gas emission by Modern College: faculty wise contribution

Facultywise Contribution

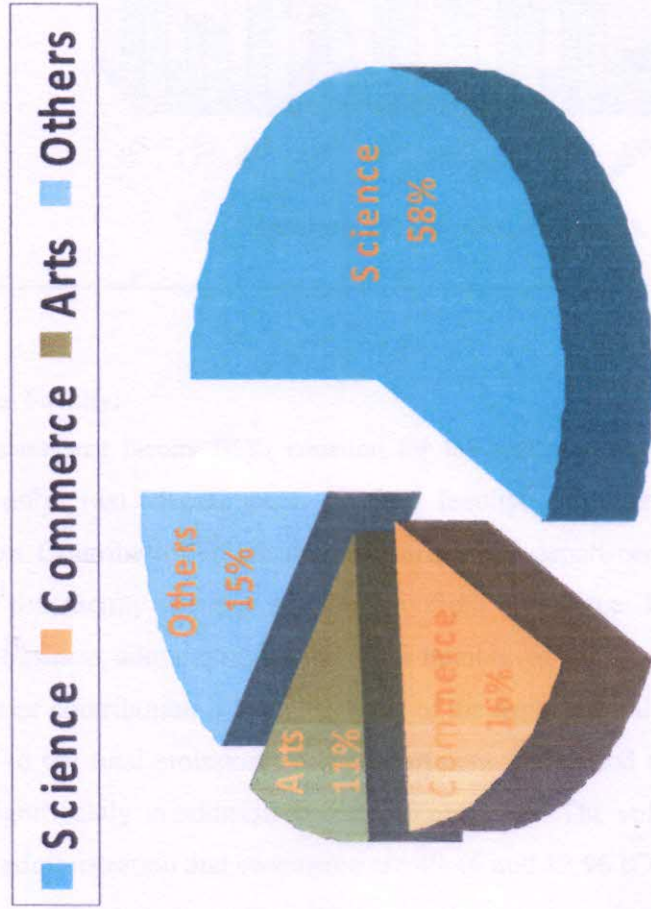
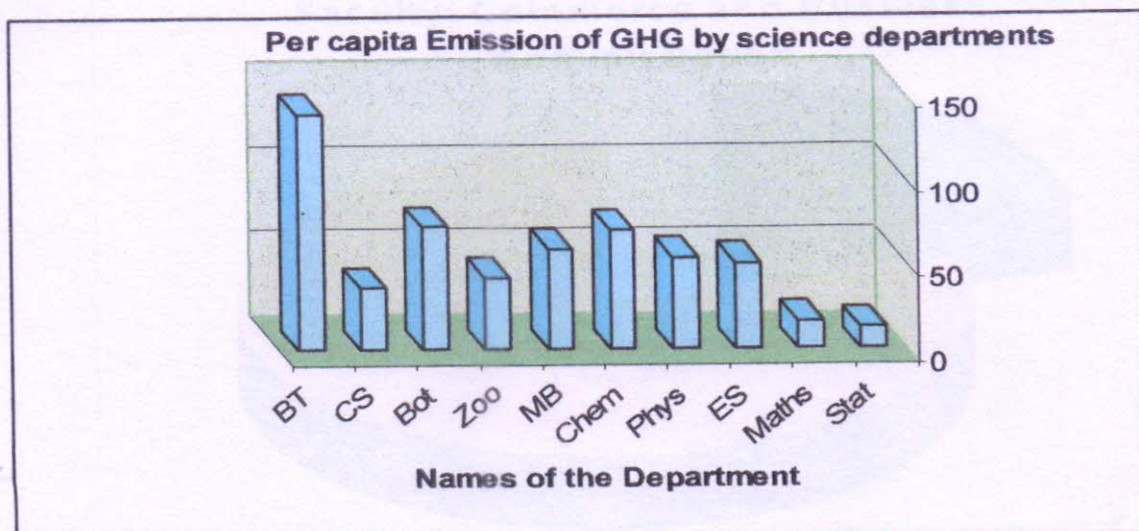


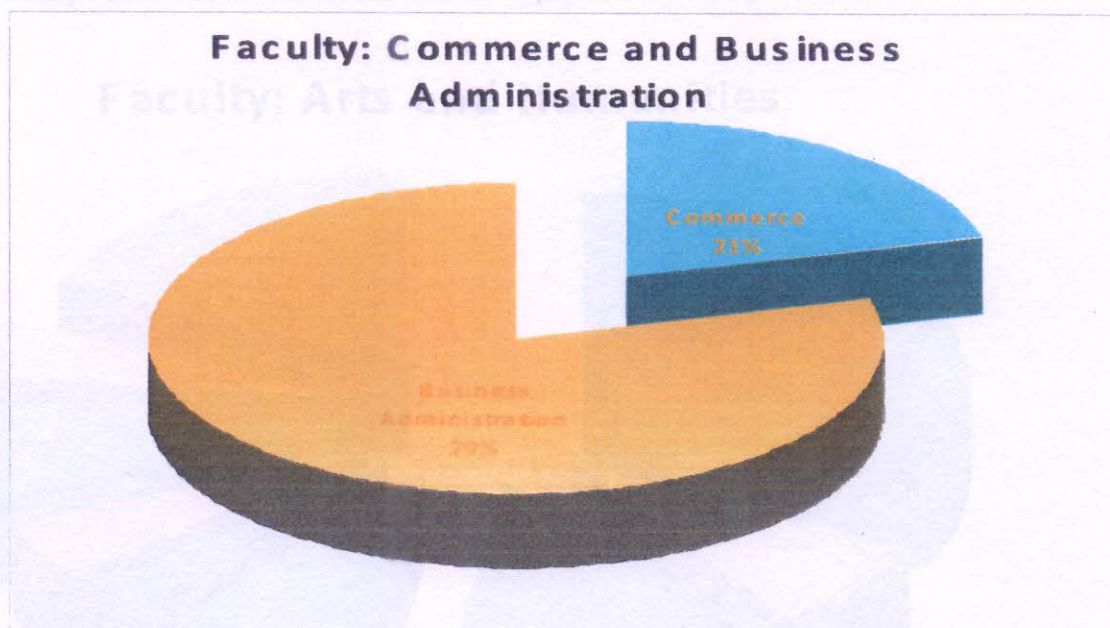
Figure 7: Per Capita GHG emission of Science Departments.



(b) Commerce Faculty:

The commerce faculty GHG emission for the academic year stands at 62.42 tCO₂e. There are only two departments in this faculty, commerce and the business administration. Contribution of business administration department is at 79% of the total emission for this faculty whereas remaining is from commerce. The data provided to us shows that, business administration has total number of 48 teaching and non-teaching staff. The major contribution is from transport of the departmental staff which contributes almost third to the total emission of the department. Paper and other consumables also contribute significantly in addition to that of computers. The volume of GHG emission for business administration and commerce are 49.46 and 12.96 tCO₂e per year. Per capita GHG emission from business administration and commerce departments are 12.28 and 8.25 kg CO₂e per year. Figure 8 shows the GHG emission pattern of commerce and business administration faculty.

Figure 8: Commerce Faculty: Department wise contribution to GHG emission.



(b) Faculty of Arts and Humanities:

Figure 9 shows the GHG emission pattern of various departments in the Arts and Humanities faculty. This faculty consists of Geography, Economics, English, German, Hindi, History, Marathi, Political Science and Psychology departments. The total volume of GHG emission of Arts faculty is 48.28 tCO₂e per year which is the lowest as compared to commerce and science faculties. The important contributors are Geography, Psychology and English. It should also be noted that, the main source of GHG emission from the Arts faculty is paper for examination and students journals (as in the case of geography). Languages seem to not contribute too much of the GHG emission as they do not require much of paper, laboratories and other resources.

Per capita GHG emission of Psychology is maximum at 67.65 kg CO₂e whereas that of Hindi department stands at 2.51 kg CO₂e per year. Table 2 shows per capita emission of GHG from the Arts faculty departments. The lower emission of GHG from Arts faculty is attributed to, as per the data provided by the departments, less consumption of electricity by electronic appliances, lower consumption of papers as there is no need of students' journals and manuals.

Figure 9: Faculty of Arts and Humanities: Emission pattern of the departments.

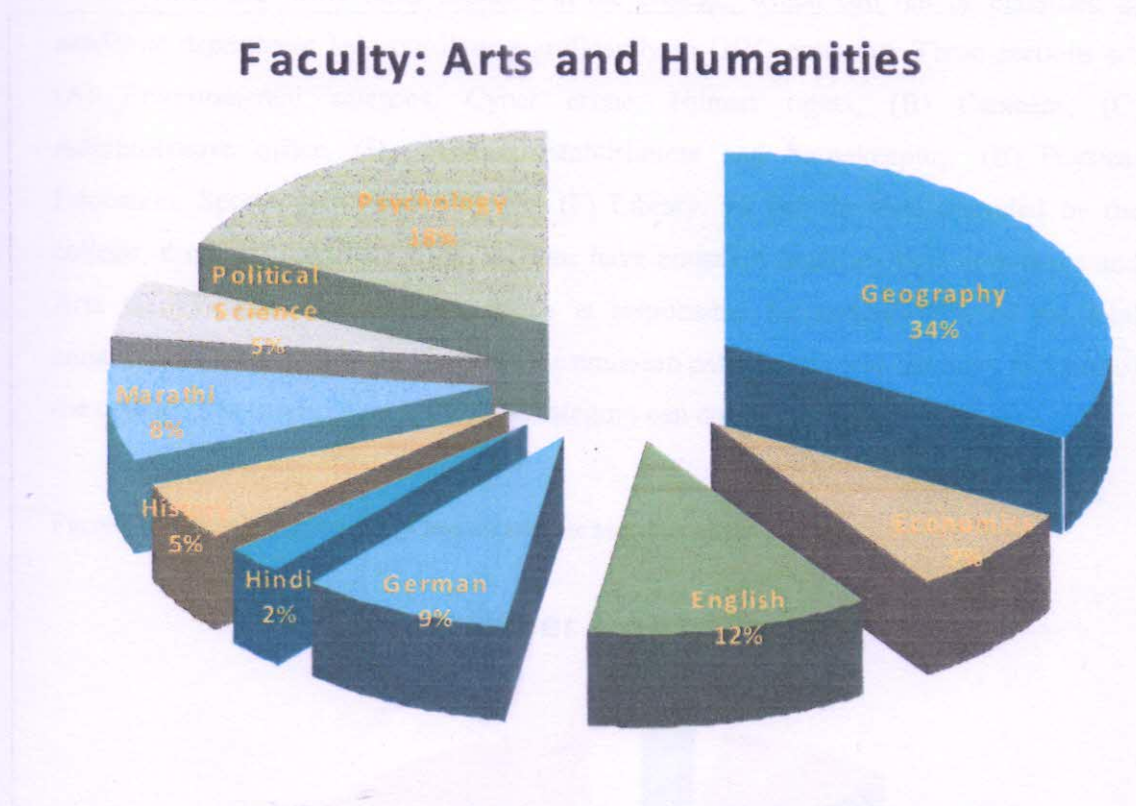


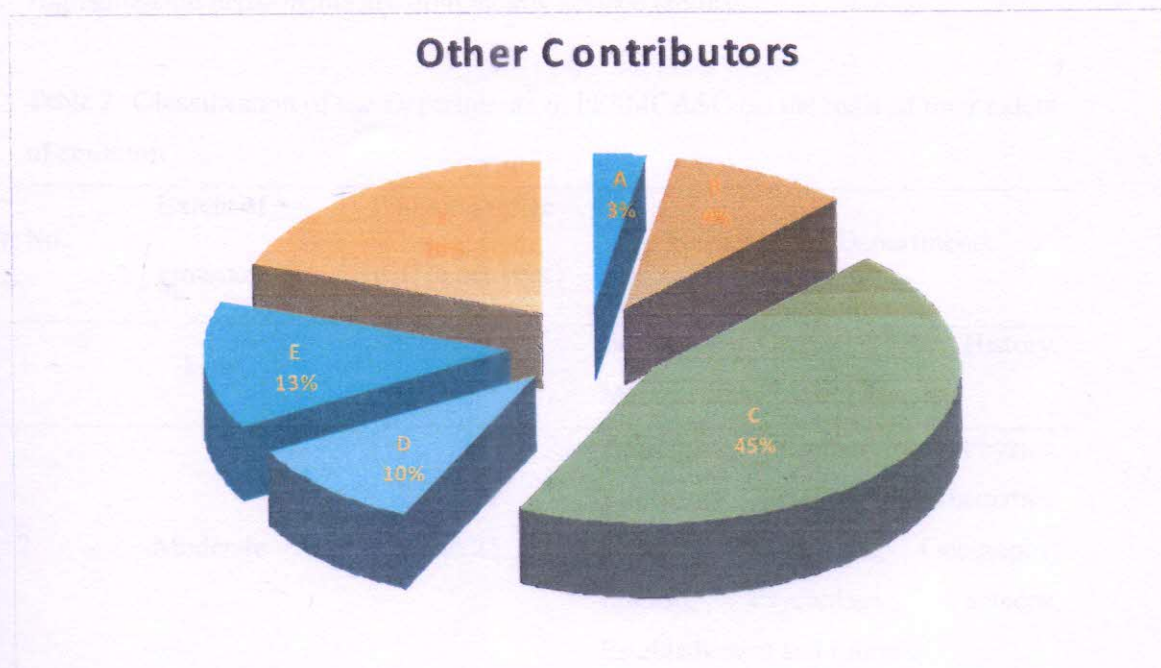
Table 3: Per capita and total emission of GHG from the Arts faculty departments

Sr. No.	Name of the Department	Total GHG emission (tCO ₂ e)	Per Capita emission (kgCO ₂ e)
1	Geography	15979.57	28.43
2	Economics	15713.75	27.96
3	English	5755.16	4.07
4	German	4387.815	26.76
5	Hindi	980.70	2.51
6	History	4996.63	12.75
7	Marathi	7854.55	18.06
8	Political Science	2424.13	3.91
9	Psychology	8185.12	67.65

(c) Others

There are many other sections in the college, which can not be classified as academic department but contribute significantly to GHG emission. These sections are (A) Environmental sciences, Cyber crime, Human rights, (B) Canteens, (C) Administrative office, (D) Campus establishment and housekeeping, (E) Physical Education, Sports, NCC and NSS and (F) Library. As per the data provided by the college, it can be seen that, these sections have emission tendency than commerce and Arts faculty. The administrative office is responsible for almost 45% of the total emissions of 'others'. Figure 10 shows the emission patterns of these auxiliary sections of the college. Per capita emission for this category can not be calculated

Figure 10 Emission patterns of non-academic sections of the college.



3.4 Department wise GHG Emission pattern of Modern College, Shivajinagar

Based on the information obtained from the calculations, following observations about emission patterns of the departments in the Modern College can be made.

1. All the departments may be classified into three categories as (i) high emission departments (with GHG more than 25 tCO₂e per year), (ii) moderate emission departments (with emission in the range of 5 to 25 tCO₂e per year) and (iii) low emission departments (with emission less than 5 tCO₂e per year). Following Table shows the classification of the departments according to the extent of emission.
2. All the low emission departments are from Arts faculty.
3. Most of the departments fall in the moderate emission range.
4. Departments with post graduate (PG) courses and research facility are high emission entities.
5. High emission departments are from mostly science faculty.

Table 2: Classification of the Departments in PESMCASC on the basis of their extent of emission

Sr. No.	Extent of emission	Emission range (tCO ₂ e per year)	Names of the Departments
1	Low	< 5	Economics, German, Hindi, History, Marathi and Political Science
2	Moderate	5 to 25	Zoology, Microbiology, Physics, Electronic Science, Mathematics, Statistics, Commerce, Geography, English, Psychology, Canteens, Establishment and Library
3	High	>25	Biotechnology, Computer Science, Botany, Chemistry, Business Administration and Administrative offices.



Figure 11: Extent of GHG emission from all the departments of PESMCASC: A Department wise comparison.

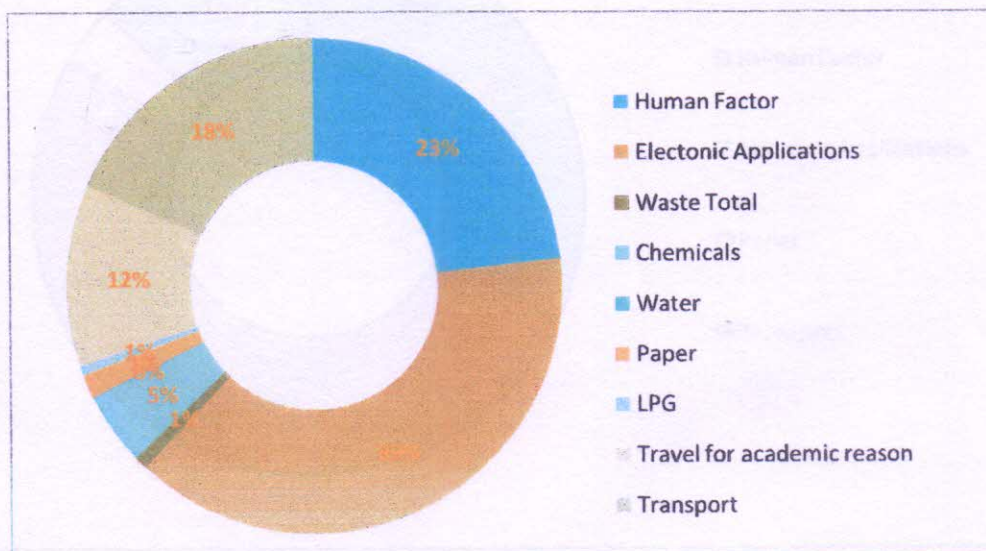
Departmental Carbon Emission: Intra Departmental Analysis:

In the following section, the intra-department GHG emission sources were identified. This information is particularly important since it will give an idea about the carbon emission sources in the department and hence the measures to be taken to restrict them and optimize the departmental output. Only handful of the major departments is analyzed.

(1) Department of Biotechnology:

Biotechnology is an important department in the college. It runs undergraduate as well as post graduate courses. Data analysis showed that, the total GHG emission from this department amounts to 27.83 tCO₂e per year. Calculations also showed that, this department has maximum per capita emission. All GHG emission sources contribute to total emission in this department. The major emission sources are electronic appliances, waste, paper, tours and travels, transport in addition to that of human contribution. The emission profiling of biotechnology department is shown in the Figure 11.

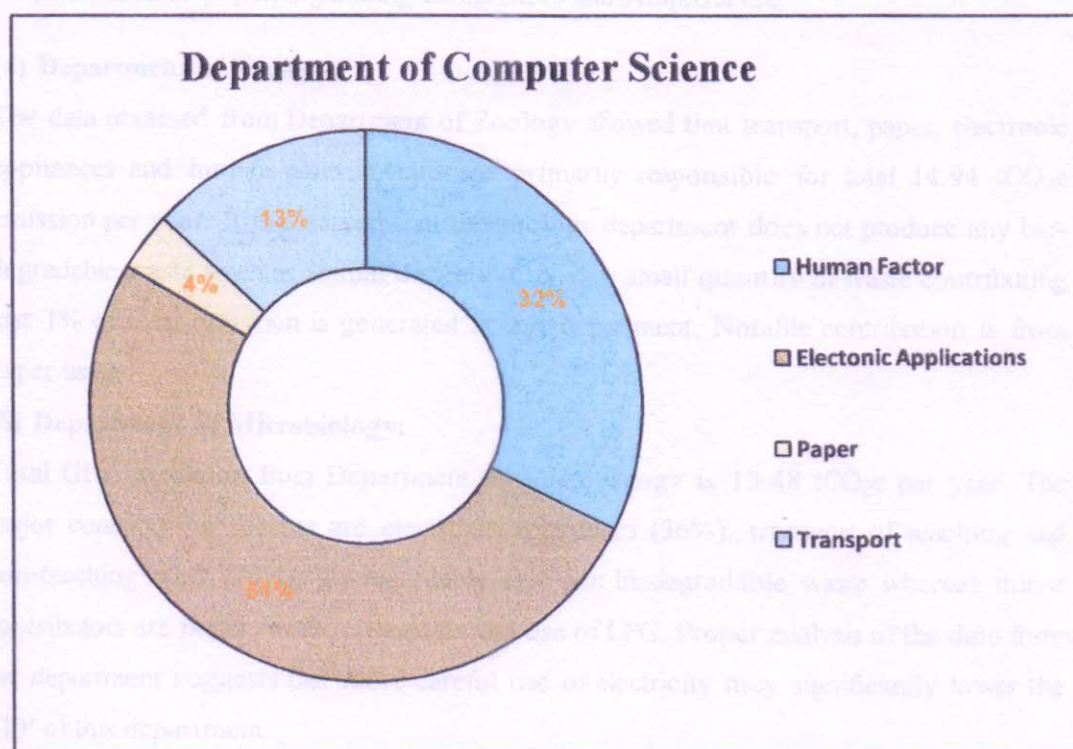
Figure 12: GHG emission profile of Department of Biotechnology.



(2) Department of Computer Science:

There are only four GHG emission sources in the CS department that are responsible for 28.52 tCO₂e per year. More than half of the emission comes from electronic appliances including computers, printers and air conditions. The net emission of Computer Science department is more than that of Biotechnology department; per capita emission is just 36.52 kg CO₂e per year. However restricted use of paper (by increasing the e-content, such as e-notices) can offset emission due to electronic appliances significantly. Also the optimized consumption of electricity may have definite positive effect on the total emission in the future. Figure 12 shows the GHG emission profiling of the Department of Computer Science.

Figure 13: GHG emission profile of Department of Computer Science.



(3) Department of Botany and Zoology:

Department of Botany in the college is reputed and boasts modern infrastructure for research and development. As it is mentioned earlier, research and post graduate departments have more GHG emissions. The total GHG emission from Botany department is 28.28 tCO₂e per year. GHG profiling as shown in the Figure 13 indicates every emission source studied contributes to some extent towards total emission. The emission sources with more than 10% contribution are transport of employees, paper, water, electronic appliances and the human contribution. However chemicals, LPG, waste also contribute to some extent.

It should also be noted that, such an extent of emission may be justified as research and other academic activities in the department are leading to good output in terms of research paper, organizing conferences and symposia etc.

(4) Department of Zoology:

The data obtained from Department of Zoology showed that transport, paper, electronic appliances and human contributions are primarily responsible for total 14.94 tCO₂e emission per year. It is observed that the zoology department does not produce any biodegradable waste even as animal dissection. A very small quantity of waste contributing just 1% of total emission is generated in this department. Notable contribution is from paper usage.

(5) Department of Microbiology:

Total GHG emission from Department of Microbiology is 13.48 tCO₂e per year. The major contributing sources are electronic appliances (36%), transport of teaching and non-teaching staff (20%), biodegradable and non-biodegradable waste whereas minor contributors are paper, water, chemicals and use of LPG. Proper analysis of the data from the department suggests that more careful use of electricity may significantly lower the CFP of this department.

(6) Department of Chemistry:

Data from the Department of Chemistry should be provided and analyzed cautiously as it is general presumption that chemical laboratories and industries are the major cause of pollution worldwide. The presumption is true to certain extent. Total GHG emission

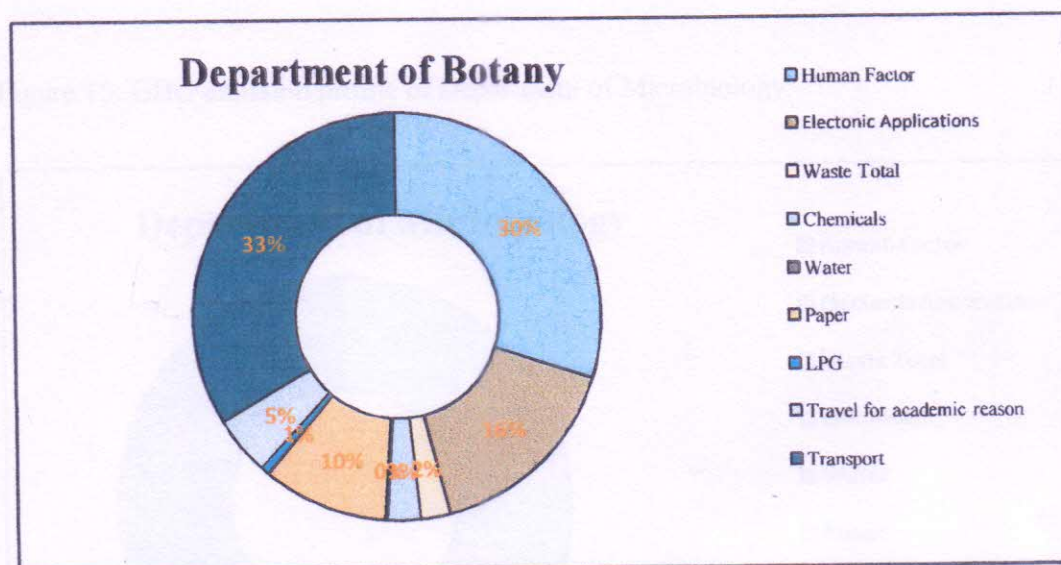
from the department stands at 41.83 tCO₂e per year, however per capita emission stands at 70.42 kgCO₂e per year which is lower as compared to biotechnology and the computer science.

Almost all types of emission sources are present in this department. The major contributors to the total emission are LPG, water, paper, chemicals in addition to that of transport of the staff.

(7) Other Departments:

GHG emission profiles of other important departments such as physics and electronics, mathematics, statistics, psychology along with administrative office are shown in the following diagrams.

Figure 14: GHG emission profile of Departments of Botany and zoology.



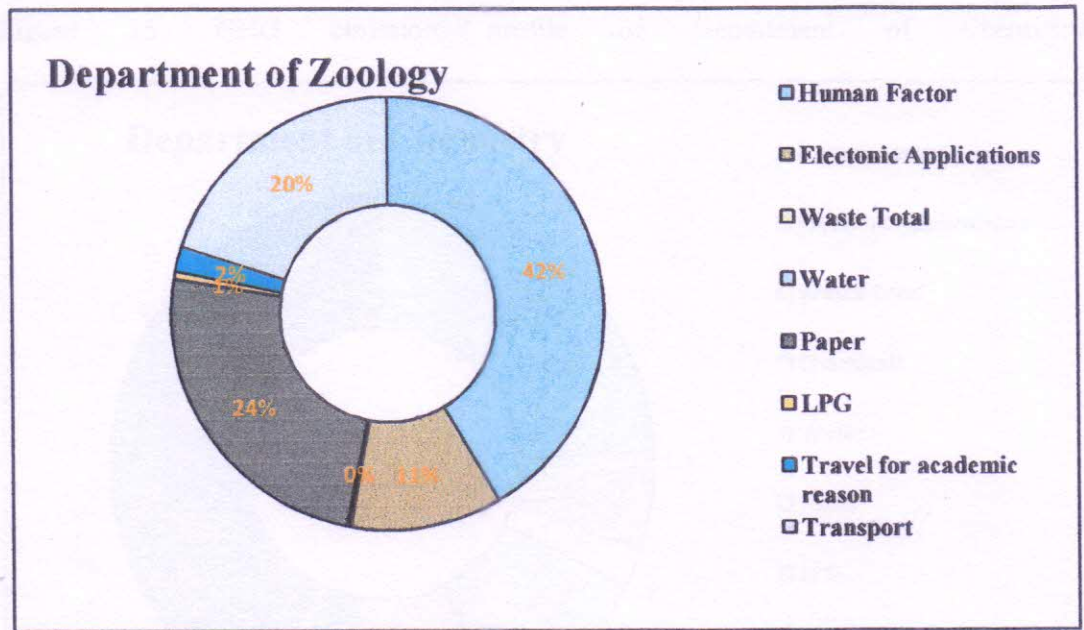


Figure 15: GHG emission profile of Department of Microbiology.

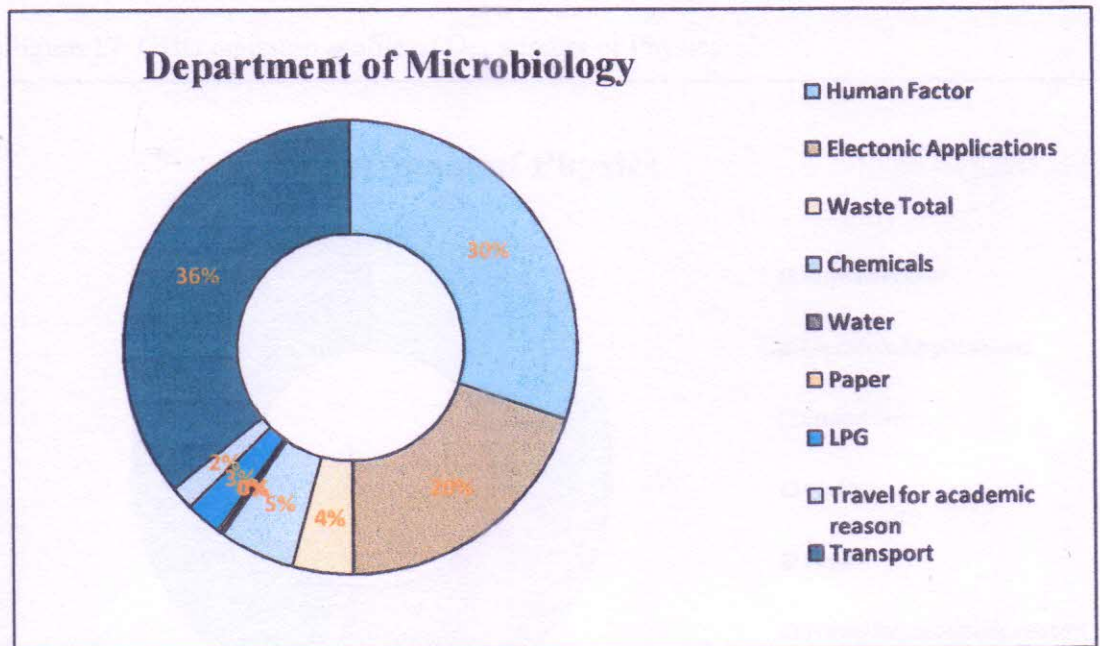


Figure 16: GHG emission profile of Department of Chemistry

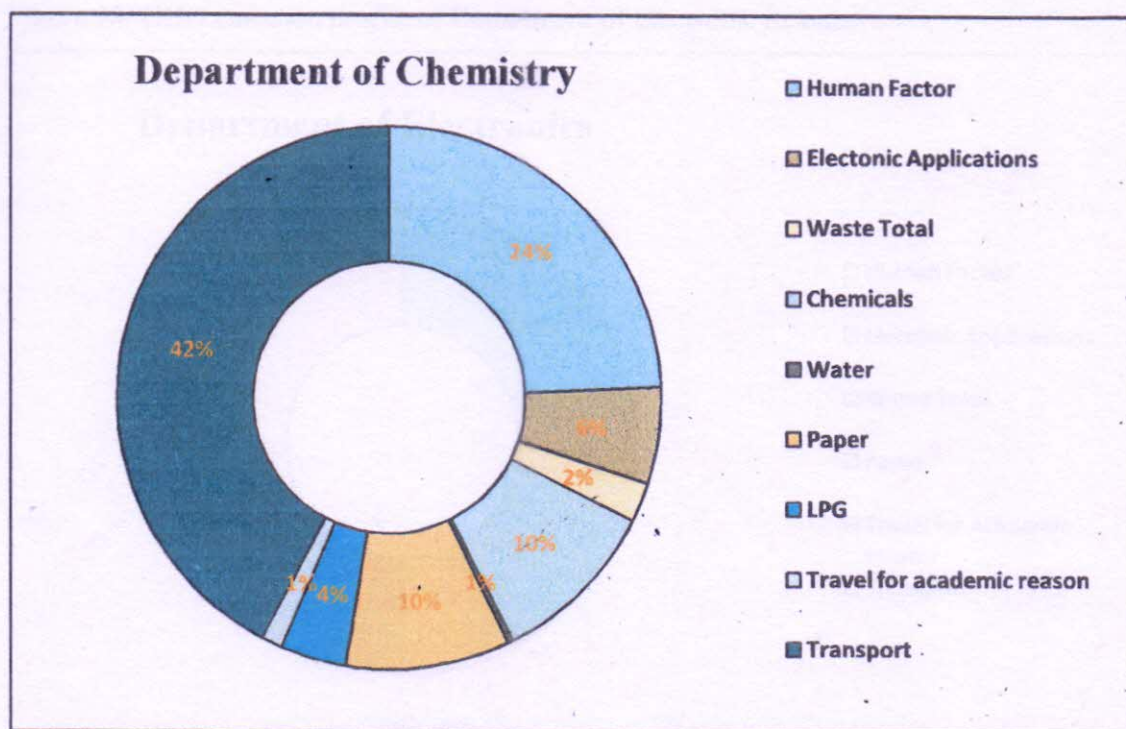


Figure 17: GHG emission profile of Department of Physics

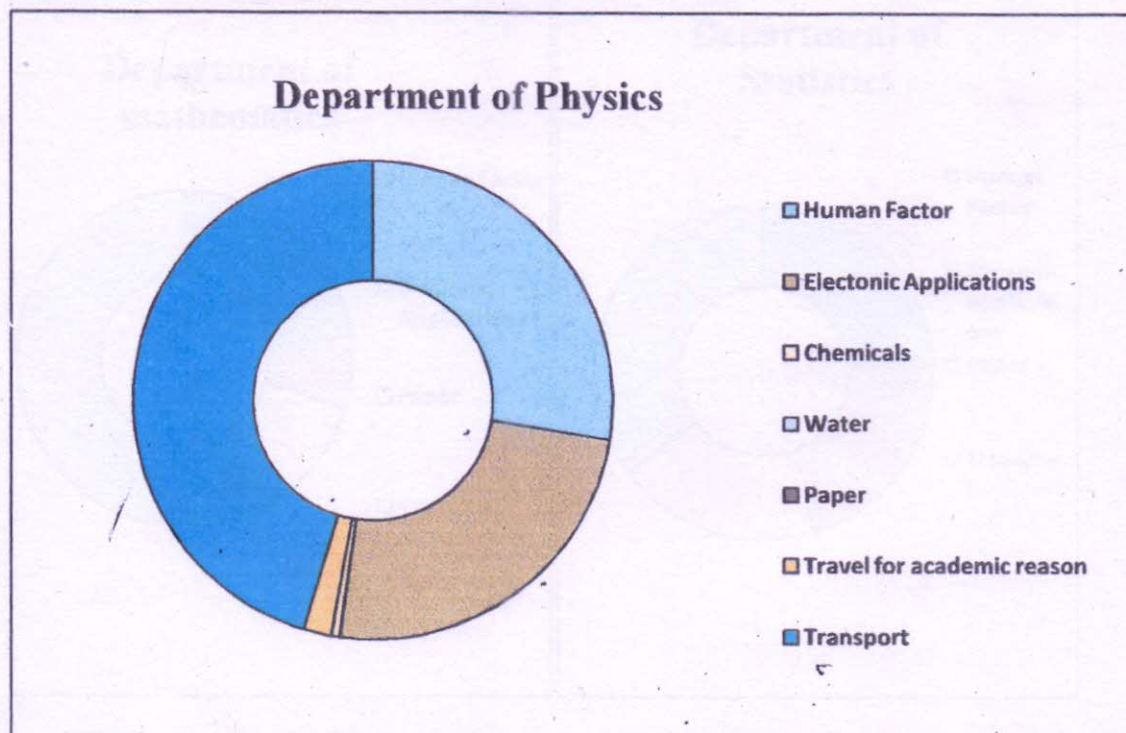


Figure 18: GHG emission profile of Department of Electronic Science

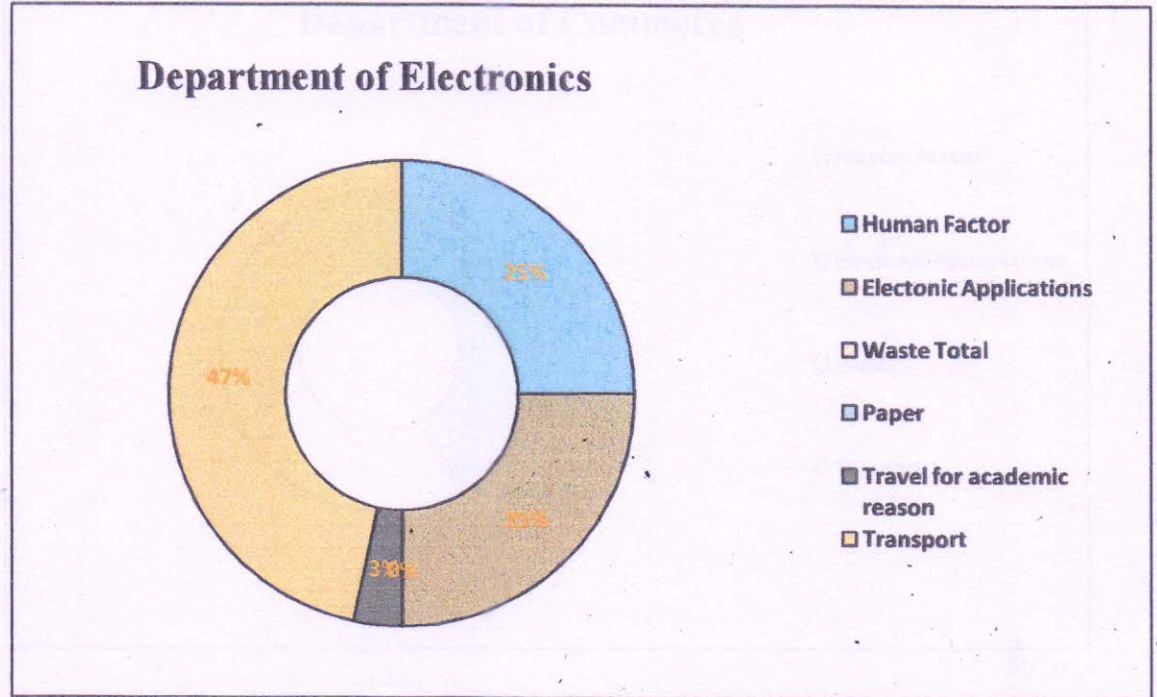


Figure 19: GHG emission profile of Departments of Mathematics and Statistics

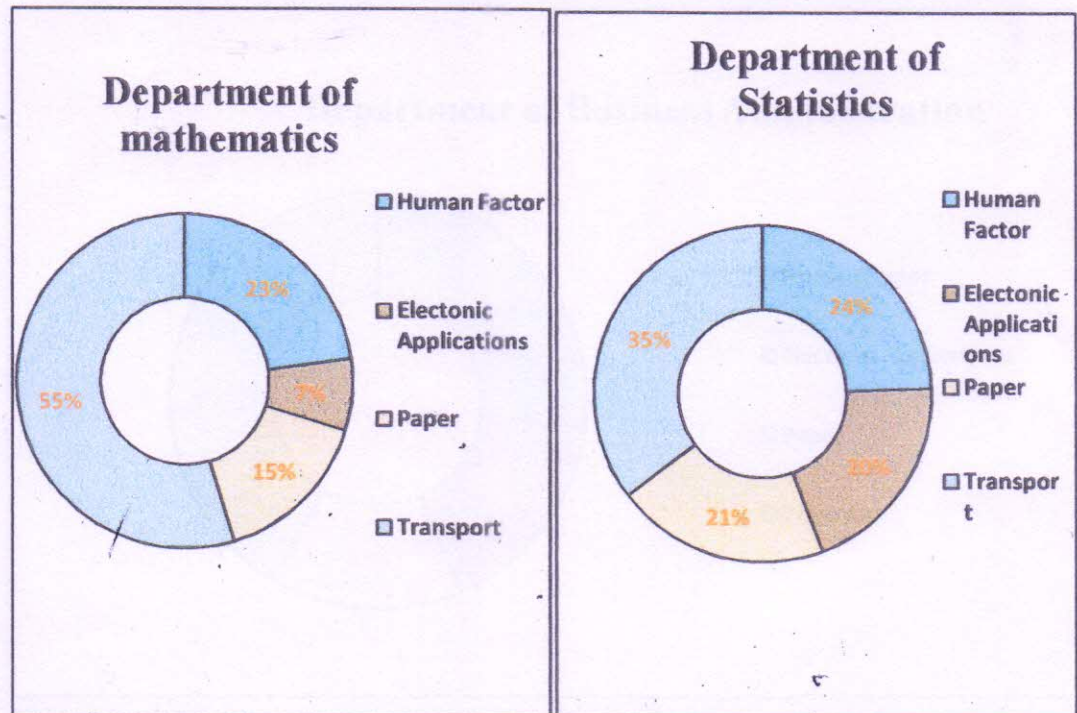


Figure 20: GHG emission profile of Department of Commerce

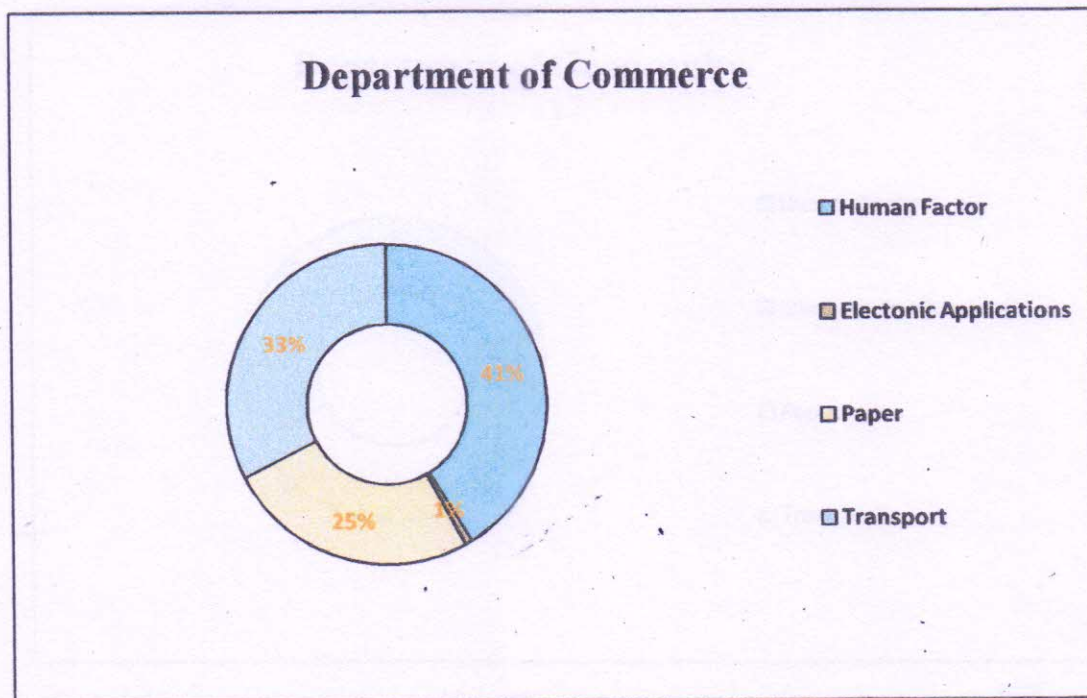


Figure 21: GHG emission profile of Department of Business Administration

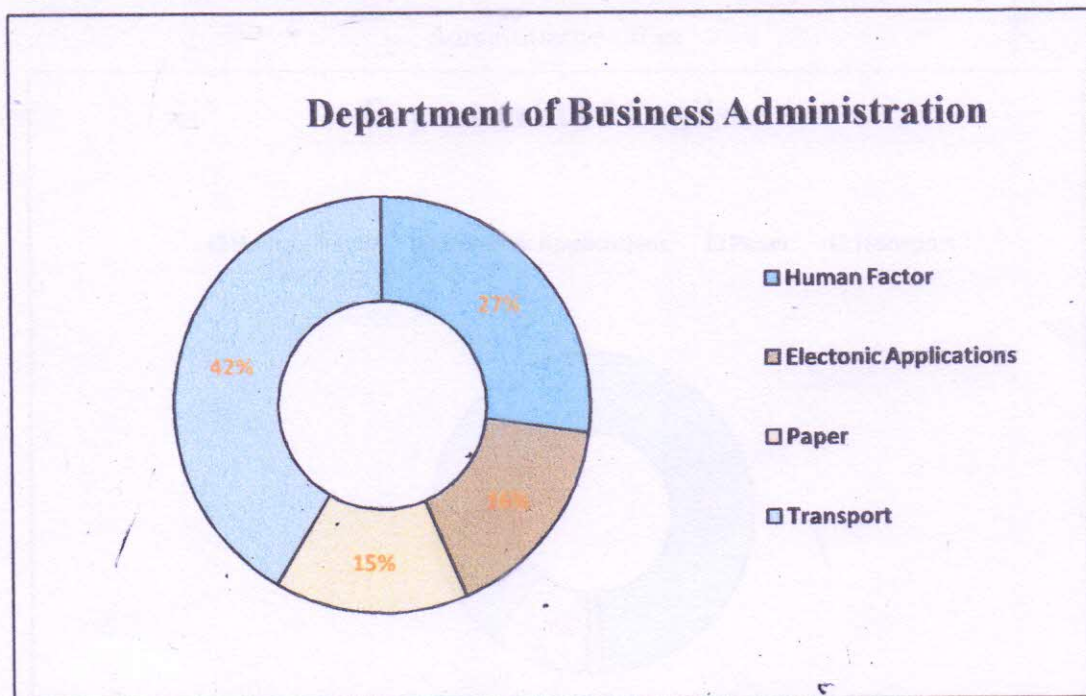


Figure 22: GHG emission profile of Department of Geography

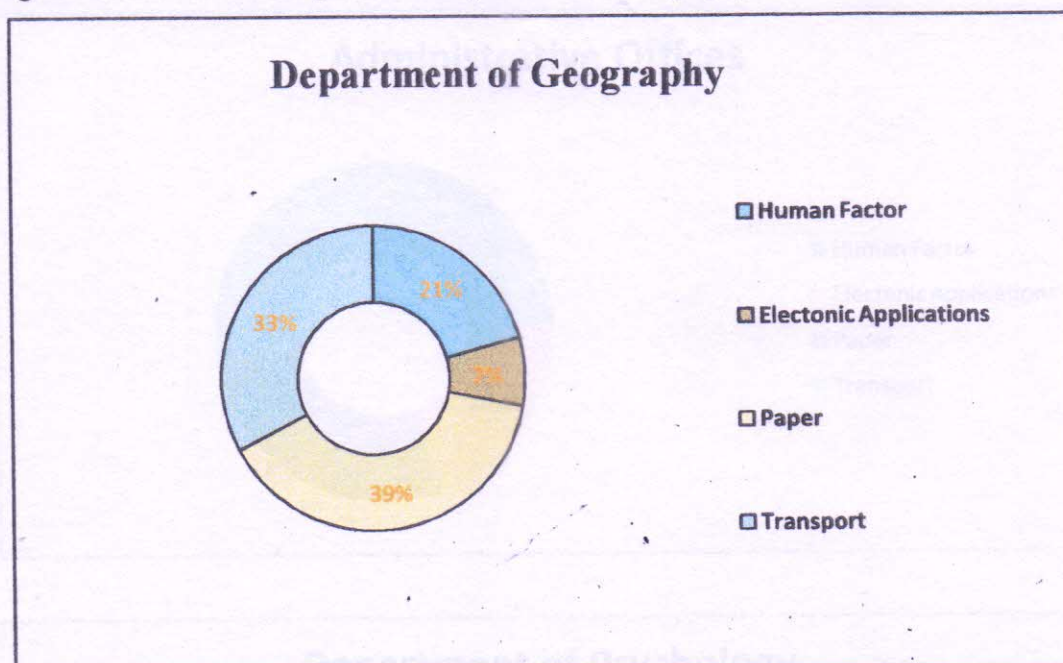
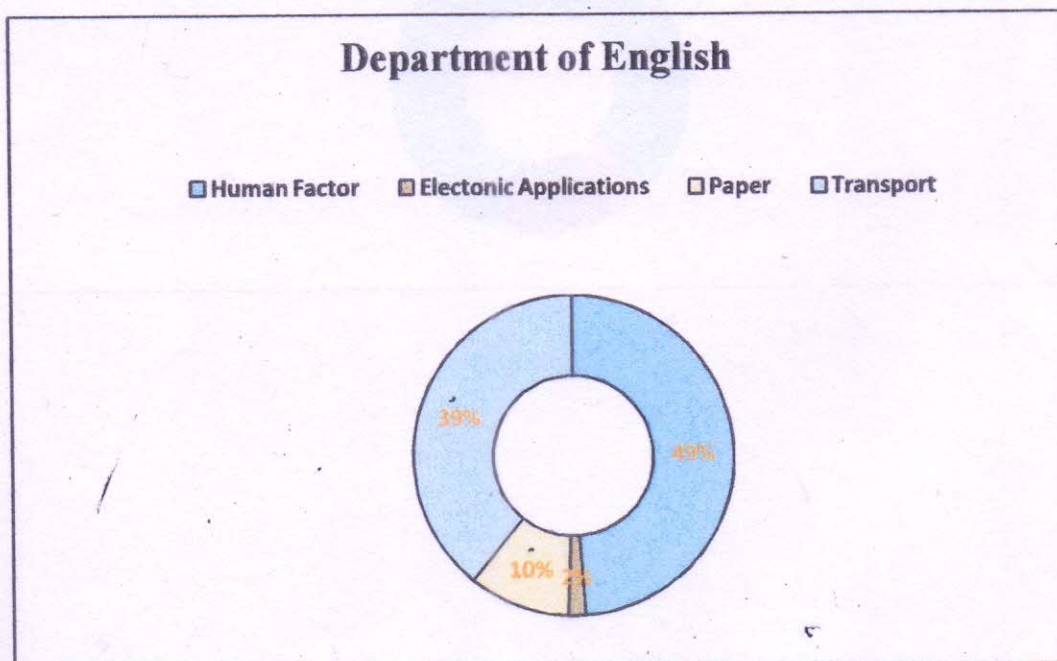
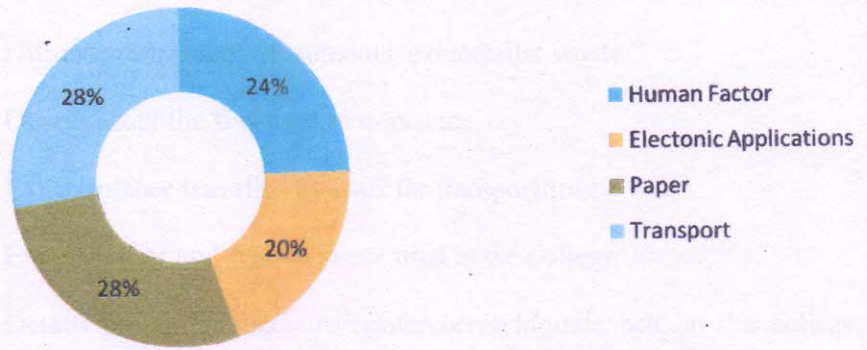


Figure 23: GHG emission profile of Departments of English, Psychology and the Administrative office

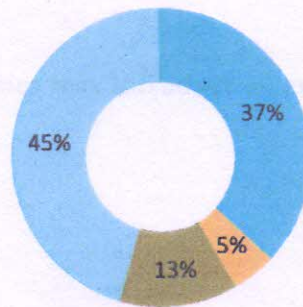


Administrative Offices



Department of Psychology

■ Human Factor ■ Electronic Applications ■ Paper ■ Transport



Uncertainties and Sources of Error in the CFP Calculations in the Present Project

- (1) Uncertainties on the data provided by the respective department
- (2) Error in the final calculation due to non-provision of the data such as e.g.
 - (a) Ultimate disposal of instruments and metallic waste
 - (b) Details about the fuel used in generator
 - (c) Exact distance travelled by staff for transport/tours
 - (d) Exact number and type of paper used in the college
 - (e) Details about the functions/conference/symposia held in the college during the academic year.
- (3) Small error in the CFP calculations due to chemicals as there are no specific norms available even at the international level.
- (4) Unavailability of the data on the visitors and various external sources

It agreed that all these possibilities may introduce an error of 5 to 10% in the final calculations of CFP.

PROJECT HIGHLIGHTS AT GLANCE

- (1) Total CFPs of PESMCASC are 491.88 tCO₂e per year.
- (2) CFPs of Arts faculty are 48.28 tCO₂e per year and that of Science and Commerce faculty are 221.55 and 62.42 tCO₂e per year respectively.
- (3) The CFPs due to consumption of electricity are 69.69 tCO₂e per year.
- (4) CFPs due to other sections of college including the administrative office are 64.88 tCO₂e per year.
- (5) Significant contributors to CFPs are Departments of Biotechnology, Chemistry, Computer Science, and Business Administration along with the Administrative office.
- (6) Departments with Maximum CFPs are Biotechnology, Computer Science, Chemistry, Business Administration and Psychology.

Recommendations and Suggestions:

Although many recommendations are suggested in the report, here few general are enlisted.

1. Electricity: It is suggested that, some arrangement should be worked out so that a separate record of consumption of electricity by each department is documented.
2. Waste Disposal: It seems the institute has already marching towards zero garbage but methods have to be worked out for proper disposal of wet and dry waste.
3. Use of Renewable energy sources: With the availability of funding from agencies like UGC, DST etc, more roof-top solar panels may be installed as so that small instruments in the laboratories (such as in chemistry and physics) can be powered.
4. Water: Water quality parameters such as pH, hardness, TDS etc should be recorded at the inlet and outlet points in the laboratories. Also the exercises may be worked out so that no much difference is observed in the two readings. Sewage water treatment plant working with good efficiency may be of help so that maximum recycling of water is possible
5. Paper: This scope 3 emission source almost contributes 10% of the total emission. Its use should be done judiciously.
6. A system may be worked out for students parking so that CFP calculations are facilitated accurately and they may be advised to use public transport system.
7. Staff vehicle pooling will definitely reduce the CFP to large extent.
8. It should be noted that, biodegradable waste contributes significantly to GHG emission so installation of compost plant will generate revenue for the institute as well as cater for own need of fertilizer for green campus.

Carbon Foot Printing Questionnaire

Department: Biotechnology

Year of Establishment: 2005

Assessment Year: 2014-15

Head of the Department: Dr S.V. Bhagat

Number of working days: Semester I.....~~180~~ 90 Semester II.....90

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	13
2	Non-teaching	06
3	Research Students (including project assistants)	02
4	PG students	49
5	UG students	130
6	Junior College students	—
7	Any other (such as other courses run by dept)	01
TOTAL		

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space		
2	Research		
3	Post graduate		
4	Graduate		
5	Junior College students		
6	Special Labs (preparation room etc.)		
7	Any other		
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	22	No	
2	Printers, scanners, photocopy machines	03	No	
3	Computers attached to equipments	03	No	
4	Refrigerators/Deep freezers etc.	10	No	
5	Air Conditioners (ACs)	03	No	
6	Small lab equipments	250	No	
7	Any other (major equipment)	20	—	As per need

AMC: Annual maintenance contract

- 4. How frequently is the maintenance of equipments done? *Once a year*
- 5. Do you maintain a dead stock register? *Yes*
- 6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) *List attached*
- 7. Are there unusable equipments in the department? How do you dispose them off? *Yes*
- 8. Do you maintain a log book for use of consumables? *Yes*
- 9. Do you maintain record of electricity consumption by the department? If yes, provide details. *No*
- 10. How much of bio-degradable solid waste is generated by the department per week? (kg) *2-3 kg*
- 11. How much of non bio-degradable solid waste is generated by the department per week? (kg) *1 kg*
(Including disposed instruments broken glassware, metallic waste, plastics etc.)
- 12. Provide the details of chemicals used per week in the table below*-

Sr. No.	Type of chemical	Quantity (kg)	Total volume (L)
1	Common Chemicals (Acids, salts etc)	<i>1 kg</i>	<i>-</i>
2	Specialty chemicals	<i>1-2 gm</i>	<i>-</i>
3	Solvents	<i>2</i>	<i>2-3 lit</i>
4	Any other	<i>-</i>	<i>-</i>

*Please provide approximate values in case exact calculation is not possible

- 13. How much water is used by the department per day?

Sr. No.	Use	Quantity (L)	Total volume (L)
1	Drinking	<i>5L</i>	
2	Laboratory Experiments	<i>5L</i>	
3	Distillation plants	<i>10L</i>	

- 14. Is water used for distillation recycled? *Yes. For rough usage like washing.*
- 15. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other purpose) *- 4 rim.*
- 16. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) (rims or kg) *25 kg - (GSM- 70 papers)*
- 17. Do you have LPG cylinder connection? If yes, how many cylinders are utilized per year? *Yes. 4 per year*
- 18. Number of foreign or inland trips made by department personnel for academic purpose.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	<i>-</i>
2	Rail	<i>2000 Km</i>
3	Road (Public transport)	<i>1000 Km</i>
4	Road (personal vehicle)	<i>-</i>

- 19. Please provide the details of industrial trips for students in the following table if any-

Q-7- Disposal of unusable equipments - Submit to central disposal facility of the college.

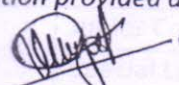
Sr. No	Class	Type and number of vehicles required	Type of fuel used by the vehicle	Distance travelled per vehicle (km)
1	Graduate	Bus-3	Diesel	500 Km
2	Post graduate	Bus-1	Diesel	200 Km
3	Research scholars	Car-1	Petrol	500 Km

20. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	02	30km
2	Bikes and scooters	Petrol	10	150km
3	Cars (i) Petrol	—	03	50km
	(ii) Diesel	—	—	—
4	SUVs/MUVs	—	—	—

21. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc).
22. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. —

Information provided above is verified and accurate to the best of my knowledge.


Head

Principal

Department of Biotechnology

Modern College, Shivajinagar, Pune

Date: 25/5/15

Q-21- Organized Biotech Fest.

Participants- 150.

Arranged snacks for all participants & faculty

Paper dishes & glasses were used. - 175

packaged soft drink (200ml) - 175

Carbon Foot Printing Questionnaire

Department: Computer Science

Year of Establishment: 15th June 1986

Assessment Year: 2014-15

Head of the Department: Prof. S.S. Deshmukh

Number of working days: Semester I... 90.....

Semester II... 90.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	25
2	Non-teaching	06
3	Research Students (including project assistants)	
4	PG students	360
5	UG students	390
6	Junior College students	100
7	Any other	-
TOTAL		881

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	3500 sq. ft.	3000 sq. ft.
2	Research	-	-
3	Post graduate	1000 sq. ft.	1000 sq. ft.
4	Graduate	1000 sq. ft.	1000 sq. ft.
5	Junior College students	500 sq. ft.	500 sq. ft.
6	Special Labs (preparation room etc.)	-	-
7	Any other		
TOTAL		6000 sq. ft.	5,500 sq. ft.

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	120	YES	-
2	Printers, scanners, photocopy machines	14	YES	-
3	Computers attached to equipments	-	-	-
4	Refrigerators/Deep freezers etc	-	-	-
5	Air Conditioners (ACs)	06	YES	-
6	Small lab equipments	-	-	-
7	Any other	-	-	-

AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? Quarterly
5. Do you maintain a dead stock register? YES
6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) 8 tables, 130 chairs
7. Are there unusable equipments in the department? How do you dispose them off? —
8. Do you maintain a log book for use of consumables? —
9. Do you maintain record of electricity consumption by the department? If yes, provide details. —
10. How much of bio-degradable solid waste is generated by the department per week? (kg) —
11. How much of non bio-degradable solid waste is generated by the department per week? —
(Including disposed instruments broken glassware, metallic waste, plastics etc.)
12. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other purpose) 2
13. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) —
14. Do you have LPG cylinder connection? If yes, how many cylinders are utilized per year? —
15. Number of foreign or inland trips made by department personnel for academic purpose. NO

Sr. No.	Mode	Total distance travelled in (km)
1	Air	
2	Rail	<u>NIL</u>
3	Road (Public transport)	
4	Road (personal vehicle)	

16. Please provide the details of industrial trips for students in the following table if any-

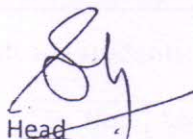
Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate			
2	Post graduate	<u>YNA</u>		
3	Research scholars			

17. Provide the details of transport facility used by staff in the following table-

Sr. No.	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
	Public Transport	CNG/Diesel	<u>—</u>	<u>—</u>
	Bikes and scooters	Petrol	<u>25</u>	<u>8 km</u>
3	Cars (i) Petrol	Petrol	<u>03</u>	<u>8 km</u>
	(ii) Diesel	<u>—</u>	<u>—</u>	<u>—</u>
4	SUVs/MUVs	<u>—</u>	<u>—</u>	<u>—</u>

18. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *NA*
19. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. *NA* ✓

Information provided above is verified and accurate to the best of my knowledge.


Head

Department of Computer Science

Principal

Modern College, Shivajinagar, Pune

Date:

Carbon Foot Printing Questionnaire

Department: Microbiology

Year of Establishment: 2005

Assessment Year: 2014-15

Head of the Department: Dr. Shilpa Mujumdar

Number of working days: Semester I.....90.....

Semester II.....90.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	09
2	Non-teaching	04
3	Research Students (including project assistants)	Nil
4	PG students	88
5	UG students	126
6	Junior College students	Nil
7	Any other	Nil
TOTAL		227

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	160	160
2	Research	890	890
3	Post graduate	1704	1000
4	Graduate	1664	1000
5	Junior College students	-	-
6	Special Labs (preparation room etc.)	250	200
7	Any other (Dark room)	150	100
TOTAL		4818	2350

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	04	Yes	by computer science dept.
2	Printers, scanners, photocopy machines	03	No	-
3	Computers attached to equipments	01	No	-
4	Refrigerators/Deep freezers etc	04	No	-
5	Air Conditioners (ACs)	01	No	-
6	Small lab equipments	08	No	-
7	Any other	-	-	-

AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? *once in a year.*
5. Do you maintain a dead stock register? *yes.*
6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) → *Table - 8 (wood) chairs - 10 (plastic).*
7. Are there unusable equipments in the department? How do you dispose them off? *NO.*
8. Do you maintain a log book for use of consumables? *yes.*
9. Do you maintain record of electricity consumption by the department? If yes, provide details. *NO.*
10. How much of bio-degradable solid waste is generated by the department per week? (kg) *5kg / (depends)*
11. How much of non bio-degradable solid waste is generated by the department per week? *30kg (")*
(Including disposed instruments broken glassware, metallic waste, plastics etc.)
12. Provide the details of chemicals used per week in the table below* -

Sr. No.	Type of chemical	Quantity (kg)	Total volume (L)
1	Common Chemicals (Acids, salts etc)	<i>500 gm</i>	<i>500 ml</i>
2	Specialty chemicals	<i>10 gm</i>	<i>50 ml</i>
3	Solvents	<i>-</i>	<i>100 ml</i>
4	Any other	<i>-</i>	<i>-</i>

*Please provide approximate values in case exact calculation is not possible

13. How much water is used by the department per day?

Sr. No.	Use	Quantity (L)	Total volume (L)
1	Drinking	<i>100 lit.</i>	<i>100 lit.</i>
2	Laboratory Experiments	<i>200 lit</i>	<i>200 lit</i>
3	Distillation	<i>50 lit</i>	<i>50 lit</i>

14. Is water used for distillation recycled? *NO.*
15. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other purpose) *07*
16. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *Journals done by students.*
17. Do you have LPG cylinder connection? If yes, how many cylinders are utilized per year? *yes, 8/year*
18. Number of foreign or inland trips made by department personnel for academic purpose. *in land → 2*

Sr. No.	Mode	Total distance travelled in (km)
1	Air	<i>-</i>
2	Rail	<i>-</i>
3	Road (Public transport)	<i>97-100 km</i>
4	Road (personal vehicle)	<i>97-100 km</i>

19. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	02 bus	Diesel	97 km.
2	Post graduate	—	—	—
3	Research scholars	—	—	—

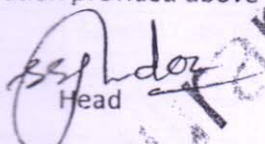
20. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	—	—
2	Bikes and scooters	petrol	07	168 km
3	Cars (i) Petrol (ii) Diesel	car " "	02	50 km
4	SUVs/MUVs	—	—	—

21. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). Yes, Food - free (students money) Rs. 100/funcⁿ.
22. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

National conference.
No. of students - 350
No. of days - 2 days.

Information provided above is verified and accurate to the best of my knowledge.


Head

Department of Microbiology


Principal

Modern College, Shivajinagar, Pune

Date:

Carbon Foot printing questionnaire

Department: Chemistry

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Dr Joag S.D.,

Number of working days: Semester I.....104

Semester II.....133

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	25
2	Non-teaching	12
3	Research Students (including project assistants)	—
4	PG students	82
5	UG students	475
6	Junior College students	960
7	Any other	—
TOTAL		1554

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	500	
2	Research	225	
3	Post graduate	860	
4	Graduate	1700	
5	Junior College students	1800	
6	Special Labs (preparation room etc.)	200	
7	Any other store	200	
TOTAL		5485	

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	6	NO	
2	Printers, scanners, photocopy machines	3	NO	
3	Computers attached to equipments	1	NO	
4	Refrigerators/Deep freezers etc	2	NO	
5	Air Conditioners (ACs)	NIL	NA	
6	Small lab equipments (Electrophoresis etc)	30	NO	
7	Any other			

AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? *once an year in the form of repairing*
5. Do you maintain a dead stock register? *yes*
6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) *Pl. see the attachment*
7. Are there unusable equipments in the department? How do you dispose them off? *Pl. see the attachment*
8. Do you maintain a log book for use of consumables? *yes*
9. Do you maintain record of electricity consumption by the department? If yes, provide details. *No*
10. How much bio-degradable solid waste is generated by the department per week? (Including animal material used in the lab for experiments.) *N.A.*
11. How much non bio-degradable solid waste is generated by the department per week? (Including disposed instruments, broken glassware, metallic waste, plastics etc.) *150 kg*
12. Do you have LPG cylinder connection? If yes, how many cylinders are utilized per year? *yes, 40*
13. Provide the details of chemicals used per week in the table below

Sr. No.	Type of chemicals	Quantity (kg)	Total volume (L)
1	Common Chemicals (Acids, salts etc)	<i>3.5</i>	<i>40 L (aq. soln)</i>
2	Specialty chemicals	<i>0.005</i>	<i>10 L (aq soln)</i>
3	Solvents	<i>3 kg</i>	<i>3.5 L</i>
4	Any other	<i>—</i>	<i>—</i>

*Please provide approximate values in case exact calculation is not possible

14. How much water is used by the department per day?

Sr. No.	Use	Quantity (L)	Total volume (L)
1	Drinking	<i>1500</i>	
2	Laboratory Experiments	<i>250 L</i>	
3	Distillation etc.	<i>20 L</i>	

15. Does water used for distillation recycled? *yes*

16. Provide the details of waste water generated

Sr. No.	Quality parameter	Before use	Waste water
1	pH		
2	Conductivity		
3	Hardness		
4	COD		
5	BOD		

17. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) *5*

18. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *Journal files: 800; Journal sheets: 1,22,000; Ans. sheets: 12,000*
19. Number of foreign or inland trips made by department personnel for academic purpose.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	
2	Rail	2000 km
3	Road (Public transport)	400 km
4	Road (personal vehicle)	

20. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate			
2	Post graduate	private coach: 1	diesel	300 km
3	Research scholars			

21. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	18	510 km
2	Bikes and scooters		18	536 km
3	Cars (i) Petrol		1 (CNG)	40 km
	(ii) Diesel			
4	SUVs/MUVs			

22. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc. *yes. Pl. see the attachment*
23. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. *NIL*

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Chemistry

Modern College, Shivajinagar, Pune

Date: 25.5.15

Attachment

6. Furniture in the Department ;

Wooden Furniture :

- Wooden writing tables (small) : 28
- " writing tables (big) : 06
- Instrument tables : 15
- Laboratory Working tables
 - with lockers : 16
 - without lockers : 20
- Cabinet tables (double) : 11
- Cabinet tables (single) : 03
- shelves : 16
- Cupboards : 06
- Chairs : 20
- small tables : 04

Steel furniture

- writing table : 01
- Cupboards & lockers : 06
- Book cases : 03

Plastic Furniture :

- Cushioned chairs : 07
- molded chairs : 30

7. The unusable equipment in the Department are disposed off centrally through the following procedure : A list of unusable equipment is prepared as per the dead stock register. Written request is forwarded to LMC for writing off the same. Then that equipment is disposed as scrap centrally.

22. The Department arranges send off function for the outgoing batch of UG Students. For this, ready to eat food items are brought in bulk (about 200 g each for 80 persons) and are served in paper plates.

Carbon Foot printing questionnaire

Department: Geography

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Dr. Nayana J. Kulkarni

Number of working days: Semester I.....120

Semester II.....150

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	09
2	Non-teaching	03
3	Research Students (including project assistants)	DN/A
4	PG students	50
5	UG students	500
6	Junior College students	500
7	Any other	-
TOTAL		1062

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	1800	225
2	Research	-	-
3	Post graduate		700
4	Graduate		800
5	Junior College students		
6	Special Labs (preparation room etc.)	-	-
7	Any other (Reading Hall)	-	75
TOTAL		1800	1800

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	12	-	-
2	Printers, scanners, photocopy machines	01	-	-
3	Air Conditioners (ACs)	-	-	-
4	Small lab equipments	-	-	-
5	Any other	-	-	-

AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? (Maintenance log book) once in a year

5. Do you maintain a dead stock register? *Yes*
6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) *Separate sheet attached*
7. Are there unusable equipments in the department? How do you dispose them off? *N.A.*
8. Do you maintain a log book for use of consumables? *N.A.*
9. Do you maintain record of electricity consumption by the department? If yes, provide details. *N.A.*
10. How much non bio-degradable solid waste is generated by the department per week? (Including disposed instruments, broken glassware, metallic waste, plastics etc.) *N.A.*
11. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) *2 Rims*
12. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *1800 Journals of 100 pages. 6 reference books. Answer sheets 300 of 16 pages. 500 supplements*
13. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. *- NIL*

Sr. No.	Mode	Total distance travelled in (km)
1	Air	
2	Rail	
3	Road (Public transport)	
4	Road (personal vehicle)	

14. Please provide the details of industrial trips for students in the following table if any- *NIL*

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate			
2	Post graduate			
3	Research scholars			

15. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel ✓	<i>NIL</i>	<i>-</i>
2	Bikes and scooters	<i>Petrol</i>	<i>07</i>	<i>180 Kms</i>
3	Cars (i) Petrol	<i>Petrol</i>	<i>02</i>	<i>55 Kms</i>
	(ii) Diesel			
4	SUVs/MUVs	<i>-</i>	<i>-</i>	<i>-</i>

16. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *Yes, separate sheet attached*

17. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

— NIL —

Information provided above is verified and accurate to the best of my knowledge.

सुनील कुर्नारि
Head

Principal

Department of Geography

Modern College, Shivajinagar, Pune

Date: *

Dr. Sunil D Kulkarni College (D.N.T. COLLEGE)

Description	Days	Participants	Workshop
Table			73
Charts			64

Department of Geography.

Q. 12 Departmental Functions

We arrange following departmental functions

1. Welcome functions: — Food, water, paper dishes and glasses flowers are used for 50 persons in the department in during regular period, probably in month of July/August.
2. Teachers day celebration — in the department for 2 hrs. Flowers are used. function for students and teachers in the month of sept.
3. Fare well functions: — Same as well come function.

Q 5 Description about furniture.

Description ↓	NO →	metal	Plastic	Wood -
Tables		—	—	73
chairs			18	64
cabinets		13	—	15

Carbon Foot printing questionnaire

Department: Commerce

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Dr Y. R. Waghmare.

Number of working days: Semester I.....120

Semester II.....120

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	14
2	Non-teaching	01
3	Research Students (including project assistants)	00
4	PG students	120
5	UG students	1240
6	Junior College students	1240
7	Any other	-
TOTAL		

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	1000 sq. ft.	800 sq. ft.
2	Special rooms, if any	-	-
3	Any other	-	-
TOTAL		1000	800

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	14	Y	-
2	Printers, scanners, photocopy machines	2	NO	-
3	Air Conditioners (ACs)	-	-	-
	Any other Laptop	2	NO	-

AMC: Annual maintenance contract

- Do you maintain a dead stock register?
- Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)
- Do you maintain record of electricity consumption by the department? If yes, provide details.
- How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose)

YRW

11

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) Journals = 1680, Ans Book = 8240
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	NIL
2	Rail	NIL
3	Road (Public transport)	250 Km
4	Road (personal vehicle)	NIL

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	4	Public	200 Km
2	Post graduate	-	-	-
3	Research scholars	-	-	-

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	2	15 km per day
2	Bikes and scooters	Scooter/Bike	10	15 km per day
3	Cars (i) Petrol (ii) Diesel	Petrol	2	20 km per day
4	SUVs/MUVs	NIL	NIL	0

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). NO
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. Nil

Information provided above is verified and accurate to the best of my knowledge.

Raymanu
Head

(S R Waghmare)

Department of Commerce

Principal

Modern College, Shivajinagar, Pune

Date: 19th May 2015

Carbon Foot printing questionnaire

Department: Business Administration

Year of Establishment: 2007

Assessment Year: 2014-15

Head of the Department: Prof. ~~P.R.~~ M.D. Waghmare.

Number of working days: Semester I: 120

Semester II: 125

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	25
2	Non-teaching	23
3	Research Students (including project assistants)	N.A
4	PG students	120
5	UG students	2052
6	Junior College students	N.A
7	Any other	N.A
TOTAL		

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	1000 Sq. Ft.	900 Sq. Ft.
2	Special rooms, if any.	N.A	N.A
3	Any other	N.A	N.A
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	70	No	
2	Printers, scanners, photocopy machines	11	No	
3	Air Conditioners (ACs)	2	No	
4	Any other			

AMC: Annual maintenance contract yes

Do you maintain a dead stock register? yes

- 5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)
- 6. Do you maintain record of electricity consumption by the department? If yes, provide details.
- 7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) 3,000/-

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) 8090 Pages.
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. N.A.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	N.A.
2	Rail	N.A.
3	Road (Public transport)	
4	Road (personal vehicle)	

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	6	Diesel	100km
2	Post graduate	2	Diesel	110 km
3	Research scholars	N.A.	N.A.	N.D.

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	3	40km
2	Bikes and scooters	Petrol	2.5	60km
3	Cars (i) Petrol	Petrol	1	40km
	(ii) Diesel	N.A.	N.A.	N.A.
4	SUVs/MUVs	N.A.	N.A.	N.A.

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc).
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

Information provided above is verified and accurate to the best of my knowledge.

Head

VICE-PRINCIPAL

Department of Business Administration
P.E. Society's
 Modern College of Arts, Science & Commerce
 Shivajinagar, Pune-411 005.

Principa

Modern College, Shivajinagar, Pune

Date: 23/05/18
 Dr. Sunil D Kulkarni, Department of Chemistry, S P College, Pune, Mobile: 95525 63358, Email: sunildkulkarni@gmail.com

Carbon Foot printing questionnaire

Department: English

Year of Establishment:

Assessment Year: 2014-15

Head of the Department: Kamble Anka Ashok

Number of working days: Semester I.....120

Semester II.....120

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	05/05
2	Non-teaching	-
3	Research Students (including project assistants)	-
4	PG students	60
5	UG students	20 for special / 1350 UG
6	Junior College students	2500
7	Any other	-
TOTAL		3950 Students & Staff

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	250 Sq Ft.	250 Sq. Ft.
2	Special rooms, if any.	-	-
3	Any other	-	-
TOTAL		250 Sq. Ft	250 Sq. Ft.

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	01	No	
2	Printers, scanners, photocopy machines	01	NO	
3	Air Conditioners (ACs)	NA	-	
4	Any other	NA	-	

AMC: Annual maintenance contract

- Do you maintain a dead stock register? Yes
- Provide a description about furniture in the department. (Number of tables, working cabinets, 3 cupboards chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) 15 chairs / 6 tables
- Do you maintain record of electricity consumption by the department? If yes, provide details. No
- How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) one rim per year excluding quality on Papers.

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *1350 + 2500 answer sheets per semester*
9. Number of foreign or inland trips made by department personnel for academic purpose by air:
Please provide in terms of total distance travelled.

N.A

Sr. No.	Mode	Total distance travelled in (km)
1	Air	NA
2	Rail	1300 km
3	Road (Public transport)	-
4	Road (personal vehicle)	-

10. Please provide the details of industrial trips for students in the following table if any-

N.A

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	NA	NA	NA
2	Post graduate	NA	NA	NA
3	Research scholars	NA	NA	NA

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	BM/CA/AJ	15 km
2	Bikes and scooters		DL/SS/PS	10 km
3	Cars (i) Petrol		PM/AK	10 km
	(ii) Diesel		-	-
4	SUVs/MUVs	-	N.A	-

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *During students departmental activities snacks are provided on paper plates so students*

13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

Workshop organized one day 60 students participated

Information provided above is verified and accurate to the best of my knowledge.

Adkambh
Head

Principal

Department of English

Modern College, Shivajinagar, Pune

Date: 24/5/2015

Carbon Foot printing questionnaire

Department: German

Year of Establishment:

Assessment Year: 2014-15

Head of the Department: Mrs Kuvalekar

Number of working days: Semester I.....180

Semester II.....150

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	04
2	Non-teaching	
3	Research Students (including project assistants)	
4	PG students	
5	UG students	80
6	Junior College students	86
7	Any other	
TOTAL		164

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	500	200
2	Special rooms, if any.	-	-
3	Any other	-	-
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	01	-	-
2	Printers, scanners, photocopy machines	01	-	-
3	Air Conditioners (ACs)	-	-	-
4	Any other	-	-	-

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? Yes

5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) 2 wooden tables/chair
1 wooden cabinet

6. Do you maintain record of electricity consumption by the department? If yes, provide details.

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) —

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) **N.A**
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. **N.A**

Sr. No.	Mode	Total distance travelled in (km)
1	Air	
2	Rail	
3	Road (Public transport)	
4	Road (personal vehicle)	

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Bus	Diesel	120 km
2	Post graduate	-	-	-
3	Research scholars	-	-	-

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	-	-
2	Bikes and scooters	Petrol	03	45 km
3	Cars (i) Petrol	Petrol	01	25 km
	(ii) Diesel	-		
4	SUVs/MUVs	-	-	-

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). **NIL**

13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

2 days workshop for 50 participants

Information provided above is verified and accurate to the best of my knowledge.

Head

Department of German

Date:

Principal

Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Department: Hindi

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Mrs. S. D. Purohit

Number of working days: Semester I....110.....

Semester II.....120.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	02
2	Non-teaching	Nil
3	Research Students (including project assistants)	N.A.
4	PG students	N.A.
5	UG students	390
6	Junior College students	400
7	Any other	-
TOTAL		790

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	250 "	100
2	Special rooms, if any.	N.A.	-
3	Any other	N.A.	-
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	01	NO.	-
2	Printers, scanners, photocopy machines	01	NO.	-
3	Air Conditioners (ACs)	Nil	-	-
4	Any other	Table, Chair		

AMC: Annual maintenance contract

Do you maintain a dead stock register? ^{yes} Done by centralized / ^{All} Language Department HOD's

5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) 06 Tables (wood) 16 chairs

6. Do you maintain record of electricity consumption by the department? If yes, provide details. NO.

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) N.A.

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *80 GSM. 2 unit) 800 per year. answer papers 12 pages each*
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. *N.A.*

Sr. No.	Mode	Total distance travelled in (km)
1	Air	<i>N.A.</i>
2	Rail	<i>N.A.</i>
3	Road (Public transport)	<i>N.A.</i>
4	Road (personal vehicle)	<i>N.A.</i>

10. Please provide the details of industrial trips for students in the following table if any- *N.A.*

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	<i>N.A.</i>	<i>N.A.</i>	<i>N.A.</i>
2	Post graduate	<i>N.A.</i>	<i>N.A.</i>	<i>N.A.</i>
3	Research scholars	<i>N.A.</i>	<i>N.A.</i>	<i>N.A.</i>

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	<i>CNG/Diesel/Petrol</i>	<i>02</i>	<i>about 10 km.</i>
2	Bikes and scooters	—	—	—
3	Cars (i) Petrol	—	—	—
	(ii) Diesel	—	—	—
4	SUVs/MUVs	—	—	—

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *N.A.*
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. *One day Workshop about 30 to 35 students*

Information provided above is verified and accurate to the best of my knowledge.

S. D. Kulkarni
Head

Principal

Department of Hindi

Modern College, Shivajinagar, Pune

Date: 25/5/2015

Carbon Foot printing questionnaire

Department: Marathi

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Dr. Snehal Tawre

Number of working days: Semester I... 120

Semester II... 120

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	5
2	Non-teaching	NA
3	Research Students (including project assistants)	7
4	PG students	53
5	UG students	370
6	Junior College students	997
7	Any other [Translation course]	6
TOTAL		1,438

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	350	350
2	Special rooms, if any.	N.A.	N.A.
3	Any other	N.A.	N.A.
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	1	No	—
2	Printers, scanners, photocopy machines	Printer	—	—
3	Air Conditioners (ACs)	N.A.	N.A.	—
4	Any other	N.A.	N.A.	N.A.

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? yes
5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) 9+7 6 13+3 Tables 6 / cabinets 16 / chairs 16
6. Do you maintain record of electricity consumption by the department? If yes, provide details. N.A.
7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) 1 Rim

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) **80 GSM, quantity 1600 answer sheets**
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	N. A.
2	Rail	N. A.
3	Road (Public transport)	N. A.
4	Road (personal vehicle)	N. A.

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	N. A.	N. A.	N. A.
2	Post graduate	N. A.	N. A.	N. A.
3	Research scholars	N. A.	N. A.	N. A.

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	1	3 k.M.
2	Bikes and scooters	Petrol	1	32 k.M.
3	Cars (i) Petrol	—		
	(ii) Diesel	Diesel	2	40 k.M.
4	SUVs/MUVs	N. A.	N. A.	N. A.

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). **N. A.**
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. **N. A.**

Information provided above is verified and accurate to the best of my knowledge.

Head

Department of Marathi

Date: 19-5-2015

Principal
PRINCIPAL

Modern College, Shivajinagar, Pune
Modern College of Arts, Science
and Commerce, Pune - 5,

Carbon Foot printing questionnaire

Department: Political Science

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: D. L. Khokale

Number of working days: Semester I.....120....

Semester II.....150.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	03
2	Non-teaching	-
3	Research Students (including project assistants)	N.A.
4	PG students	N.A.
5	UG students	617
6	Junior College students	424
7	Any other	-
TOTAL		1044

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	-	-
2	Special rooms, if any.	-	-
3	Any other	-	-
TOTAL		-	-

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	-	-	-
2	Printers, scanners, photocopy machines	-	-	-
3	Air Conditioners (ACs)	-	-	-
4	Any other			

AMC: Annual maintenance contract

4. Do you maintain a dead stock register?

5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)

6. Do you maintain record of electricity consumption by the department? If yes, provide details.

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose)

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.)
9. Number of foreign or inland trips made by department personnel for academic purpose by air:
Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	—
2	Rail	—
3	Road (Public transport)	—
4	Road (personal vehicle)	—

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	—	—	—
2	Post graduate	—	—	—
3	Research scholars	—	—	—

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	Ni/	—
2	Bikes and scooters	—	—	—
3	Cars (i) Petrol	Petro 1	02	15 kms
	(ii) Diesel	—	—	—
4	SUVs/MUVs	—	—	—

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc. Ni/
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Political Science

Modern College, Shivajinagar, Pune

Date: 29/5/2015

Carbon Foot printing questionnaire

Department: Psychology

Year of Establishment: 1971

Assessment Year: 2014-15

Head of the Department: Dr. Amruta S. Oke

Number of working days: Semester I... 120

Semester II... 150

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	8
2	Non-teaching	3
3	Research Students (including project assistants)	NA
4	PG students	374
5	UG students	36
6	Junior College students	250
7	Any other	—
TOTAL		361

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	875 sq. feet	875 sq. feet
2	Special rooms, if any.	NA	NA
3	Any other	NA	NA
TOTAL		875 sq. feet	875 sq. feet

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	4	NO	NA
2	Printers, scanners, photocopy machines	2	NO	NA
3	Air Conditioners (ACs)	NA	NA	NA
4	Any other	NA	NA	NA

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? Yes

5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) Separate sheet attached

6. Do you maintain record of electricity consumption by the department? If yes, provide details. NO

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) 02

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *70 journals having 200 pages each*
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	1200
2	Rail	NA
3	Road (Public transport)	NA
4	Road (personal vehicle)	240

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Local Train	electricity	100 km.
2	Post graduate	ST.	Diesel	360 km
3	Research scholars	NA	NA	NA

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel ✓	2	60 km.
2	Bikes and scooters	Petrol	5	150 km
3	Cars (i) Petrol	Petrol	1	15 km.
	(ii) Diesel	—	—	—
4	SUVs/MUVs	—	—	—

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *Separate sheet attached*
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. *Separate sheet attached*

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Psychology

Modern College, Shivajinagar, Pune

Date: 20.5.15

Carbon foot printing questionnaire

Psychology Department 2014-15

Q.5 Description about furniture

	No	Metal	Plastic	wood
Tables	9	8	-	1
Chairs	70	35	10	15
Cabinets	7	7	-	-

Q.12 Resources used in functions

1) Welcome function - food, water, paper dishes and glasses for 150 persons & assembly hall electricity for 2 hrs.

2) Teachers day celebration - electricity for assembly hall 2 hrs.

3) Fare well function - food, water, paper dishes & glasses for 150 persons & electricity for assembly hall 2 hrs.

Q.13 Workshops arranged by the department

1) Projective Technique	1 day	43
2) Mind Power	1 day	34
3) Pre-marital counselling	1 day	44
4) Graphology	10 days	36
5) Flower Remedy	10 days	34



8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *45,000 pages, 400 files*
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	<i>P.G.D: 3500 Km Pure Dehli, G. Refm</i>
2	Rail	<i>PSK: Visited USA</i>
3	Road (Public transport)	<i>MMS: Visited Japan</i>
4	Road (personal vehicle)	

10. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	—	—	—
2	Post graduate	—	—	—
3	Research scholars	—	—	—

11. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel		
2	Bikes and scooters	15	15	<i>715000 Km</i>
3	Cars (i) Petrol	2	2	<i>Approximate,</i>
	(ii) Diesel			
4	SUVs/MUVs			

12. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc).
13. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Statistics

Modern College, Shivajinagar, Pune

Date:

Department of Statistics

Seminar and activities Report of the department.

Name of the Event: Statistics Fest

Date: 16th December 2014

Chief Guests and Speakers: Prof. Kakade V.C., Dr. Akanksha Kashikar and Mr. Tanmay Chandresa

No. of Participants: Students: 60 Teaching Staff: 16

Every year department conducts statistical fest with a view to develop soft skills. Department has organized Statistical Fest for all statistics students on 16th December 2014. Case studies, statistical crossword, poster competition and Guest Lectures were the events of this fest. Prof. Kakade V.C. (gave lecture on how to do the projects, he also Judged the posters prepared by students), Dr. Akanksha Kashikar (gave guidance for Preparation for Competitive Examinations) and Tanmay Chandresa (gave the guidance for writing C.V and interview techniques).

Name of the Event : Past students Meet

Date : 27th January 2015

Chief Guests and Speakers : Prof. P.S. Chirputkar, Dr. R. S. Zunjarrao and Prof. P.G. Dixit

No. of Participants : Students : 70 Teaching Staff : 20

Department has organized get together for past students on 27th January 2015. About 70 students joined for the function. They expressed affinity about the department and college. They also shared memories during their college life. Prof. P.S. Chirputkar (former Principal and Head of department) and Dr. R.S. Zunjarro (Principal) appreciated the achievements of past students and guided them. We have felicitated the past students, Mr. Chandrashekar Potnis, a recipient of "exemptory industrialist", Mr. Pravin Mane for passing SET exam, Col. Pande for his promotion to post of colonel.

Name of the Event : Workshop on Biostatistics

Duration: 8 Days

Resource Person : Prof. P.G. Dixit, Dr. M.M. Sane and Prof. R. M. Umrani

No. of Participants : 10 Students and staff members.

Department organized a 8 days' workshop on Biostatistics for Life science students and staff members. Dr. M.M. Sane, Prof.R. M. Umrani and Prof. P.G. Dixit delivered lectures and gave the practice of solving problems using MS Excel. The students need the knowledge of statistical methods in their research. A long felt demand was fulfilled.

Name of the Event : Syllabi Revision workshop for T.Y. B.Com.

Date : 17th March, 2015

Number of Participant : 22

Dr. Nitin Ghorpade, Chairman of Board of Studies in statistics and computer applications inaugurated the workshop. Dr. Y.R. Waghmare (Vice -Principal) presided over the inauguration function. Prof. P.G. Dixit (Head, Statistics Department) guided the participants on making use of statistical software. Prof. P.S. Kapre taken overview of the present syllabi and lead the discussion. He prepared the detailed note on revised syllabi on the basis of valuable inputs and suggestions by the participants.

Furniture Items

Sr. No.	Particulars	Number	AMC	Remark if any
1	Computers	19	Annual Maintenance jointly done by college	
2	Printers Scanners, Photocopy machines	05		
3	Laptop	03		
4	LCD Projector	03		
5	Tables (Wooden)	08		
6	Chairs (Plastic)	15		
7	Chairs (Wooden)	18		
8	Cabinets (Wooden)	04		

CARBON FOOT PRINTING QUESTIONNAIRE

Administrative Office :

Registrar : Shri Kale Ravindra Pandharinath
 Office Supdt. : Shri Avhad Vishnupant Laxman
 Office Supdt. : Shri Renuse Prakash D.

Number of Working Days : Full Academic Year (excluding Sundays and Public Holidays)

1. Number of Administrative Staff (Office) : Gratable Unit : 16
 Non Grant Unit : 10

2. Infrastructure :

Sr.No.	Name of the Inventory	Total Area (sq ft)	Usable Area (sq.ft.)
1.	Seating Office Space	2100	0
2.	Any other		
	a) Digital Record Room and Record Storage	300 1200	0 0

2. Computers, Printers and Peripherals & Equipments :

Sr.No.	Particulars	Number	AMC (Y/N)	Remarks
1.	Computers	24 +1(Server)	Y	Non Compr.
2.	Printers	17	Y	-
3.	Scanners	03	N	-
4.	Photocopies	01	Y	-
5.	Digital Copiers	02	Y	-
6.	Air Conditioners	06	Y	-
7	Any Others			
	(a) Fans	16	N	-
	(b) CCTV Cameras	32	Y	1 DVR
	(c) Biometric Attendance	04	Y	1 System

4. Description about furniture used in the office :

1. Number of Tables : 18
2. Working Cabinets : 06
3. Chairs : 25 + 7
4. Working Counter : For 10 Employees
5. Storage : In each Cabin and adjusant to Counter + 4 Steel Cupboards also storage in DRR
 Record Storage is at 5 different Rooms/Exam control Room
 (includes wooden Cupboards, Steel

Cupboards and Wooden and Steel Shelves.)

5. Number of Papers Consumed (Apprx.)

1. A-4 Size : 1100 Rims (including Exam)

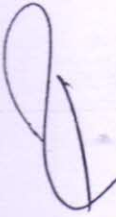
6. Quantity of Papers used for all other purposes in the office (Apprx.)

1. A-4 Size : 320 Rims (including Photocopying)
2. A-3 Size : 10 Rims for Pay Rolls & big Statements
3. B-4 Size : 10 Rims for Examinations

Details of Transport Facility used by the Staff :

Sr.No.	Type of Vehicle	Type of Fuel used (CNG/Diesel)	Number of Staff	Distance Travelled
1.	Public Transport	Disel	06	115 Kms
2.	Bikes & Scooters	Petrol	16	392 Kms
3.	Cars	Petrol	01	20 Kms.
4.	Any other	NA	NA	NA
5.	SUVs/MUVs	NA	NA	NA

Information provided above is verified and accurate to the best of my knowledge.

 Superintendent

 Registrar

Principal

Date : 27/05/2015

Carbon Foot printing questionnaire

Department: EVS, Cyber crime, Human rights

Assessment Year: 2014-15

Head/Co-ordinator of the Department: Dr. N.J. Kulkarni

Number of working days: Semester I.....40.....

Semester II.....40.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	07
4	PG students	430
5	UG students	1200
7	Any other	0
TOTAL		1637

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space		
3	Any other		-
TOTAL		-	-

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	-	-	-
2	Printers, scanners, photocopier machines	-	-	-
3	Air Conditioners (ACs)	-	-	-
4	Any other	-	-	-

AMC: Annual maintenance contract

- Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) -
- How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) 2 Rims
- Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.)
- Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	-	-
2	Bikes and scooters	petrol	07	140 km

3	Cars	—	—	—
4	SUVs/MUVs	—	—	—

Information provided above is verified and accurate to the best of my knowledge.

[Signature]

Head/Co-coordinator

EVS/Cyber crime/Human Rights

Date: 21/5/2015

Principal

Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Department: Physical Education, Sports, NSS and NCC

Year of Establishment: 1971-72

Assessment Year: 2014-15

Head of the Department: Prof. P. S. VARADE

Number of working days: Semester I... 120 days

Semester II... 120 days

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	04
2	Non-teaching	—
3	Research Students (including project assistants)	—
4	PG students	—
5	UG students	250
6	Junior College students	100
7	Any other	—
TOTAL		354

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	240	200
2	Gymnasium	—	—
3	Indoor games rooms	—	—
4	Playground details	—	—
5	Special rooms, if any	—	—
6	Any other	—	—
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	1	—	—
2	Printers, scanners, photocopy machines	—	—	—
3	Air Conditioners (ACs)	—	—	—
4	Any other (DLP, Laptop)	1 set	—	—

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? Yes
5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) —
6. Do you maintain record of electricity consumption by the department? If yes, provide details. —

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose). → 300
8. Number of foreign or inland trips made by department personnel for academic purpose by air: —
Please provide in terms of total distance travelled. Nil

Sr. No.	Mode	Total distance travelled in (km)
1	Air	
2	Rail	
3	Road (Public transport	
4	Road (personal vehicle)	

9. Please provide the details of industrial trips for students in the following table if any. Nil

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate			
2	Post graduate			
3	Research scholars			

10. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	02	200km
2	Bikes and scooters	Petrol	02	100km
3	Cars (i) Petrol			
	(ii) Diesel		10	50km
4	SUVs/MUVs			

11. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). → prize distribution function.
12. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants. — 02

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Physical Education, Sports, NSS and NCC

Modern College, Shivajinagar, Pune

Date: 26/5/2015

Furniture in the Department:-

Tables -

Wooden + Steel → 2.

Chairs

Wooden - 4

Plastic - 4

Entrance

Steel - 5

Carbon Foot printing questionnaire

Department: Physical Education, Sports, ~~NSS and NCC~~

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Vikram Phale.

Number of working days: Semester I.....

Semester II.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	4
2	Non-teaching	20
3	Research Students (including project assistants)	
4	PG students	
5	UG students	
6	Junior College students	
7	Any other	
TOTAL		6

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	400 sq ft	400 sq ft.
2	Gymnasium	930 sq ft	930 sq ft.
3	Indoor games rooms	Society Hall (Bachchan)	
4	Playground details	54000 sq ft.	54000 sq ft.
5	Special rooms, if any: Phys. Com. Room	400 sq ft.	400 sq ft.
6	Any other: Store room	300 sq. ft	300 sq ft.
TOTAL		56,030 sq ft.	56,030 sq ft.

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	2 NO		
2	Printers, scanners, photocopy machines	2 P, 1 SC.		
3	Air Conditioners (ACs)	-		
4	Any other: Laptop	1 NO		

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? Yes.
5. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc) List attached.
6. Do you maintain record of electricity consumption by the department? If yes, provide details. No

✓ 7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose). **6 Rim.**

8. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	NA
2	Rail	NA
3	Road (Public transport)	NA
4	Road (personal vehicle)	NA

matches

9. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Bikes	Petrol	Pune City (Av. 15km)
2	Post graduate			
3	Research scholars			

10. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	2	40
2	Bikes and scooters	Petrol	2	30
3	Cars	(i) Petrol	1	80
		(ii) Diesel	1	30
4	SUVs/MUVs			

11. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc).

12. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

Information provided above is verified and accurate to the best of my knowledge.

Prof. Vikram Phale
Director of Physical Education

Principa

Department of Physical Education, Sports, NSS and NCC

Modern College, Shivajinagar, Pune

Date:

Office	Equipment Name	Specification	Qty.	Price	Supplier Name	Purchase Page No.	Purchase Sr. No.	Dead Stock No.	stocke P No	Discard	Repair	Not Found	Sr. No.	Academic Year	Good Condition
Office	Pen Drive	1 GB	1	576		2007-2008	28	1				1		1	0
Office	Pen Drive	16 GB	1	575		20014-15									1
Office	Speaker	SBS 245	1	480			28	2					1		2
Office	Camera	Kodak Digital	1	7999		2009-2010	40	1			1				1
Office	computer														2
Office	wooden table										1				2
Office	chaire									2					6
Office	office chaire									7					40
Office	standing fan														4
Office	wall fan									1					2
Office	exvest fan									2					0
Office	siling fan									2					0
Office	file rack														1
Office	coburd (w)														2
Office	coburd (M)														4
Office	tube light									1					16
Office	Teliphone														20
Office	equipment rack														2
Office	amplfire machine														6
Office	cd player														1
Office	amplfire & codless mic														1
Office	specikar														1
Office	Handycam	sony													6
Office	Laptop	Dell	1	33714		2014-15	76	1							1
Office	Projector	Panasonic	1	23289											1
Office	Scanner	HP	1	3285		2014-15	76	2							1
Office	Printer	HPLJ1020	1	7095		2014-15	76	3							1
Office	Router fot Net			1250		2014-15	76	4							1

1) कॉलेज मध्ये सोलर युनिट तीन प्रकारे
कार्यरत आहेत

1) 1 KW सोलर युनिट पॅनल वर लव्हट्रेचे
ठालविलेले एकूण 33 नमूने असलेले
हे लव्हट्रे कोल्यानेतर नियमित प्रमाण
6 तास व्यवस्थित चालतात

2) 1 KW सोलर पॅनल कॉलेज समोर दक्षिणे
करीता 1 तास पाण्याचा मोटर करिता
अभ्योगात आहेत तो नियमित व्यवस्थित
विरत्या कार्यरत असून त्या मुळे
विजेचे खूप मोठ्या प्रमाणात बचत
साली आहे.

3) त्याच प्रमाणे तिरहे सोलर युनिट
1 KW चे असून ते कॉलेज मध्ये प्रयोग
शाळात लागवट डिस्टीक वॉटर करिता
कार्यरत असून त्या पासून दररोज
कुमान 5 लिटर डिस्टीक वॉटर तयार
मीळते. ~~कार्यरत असून दररोज प्रयोग~~ ~~करिता~~
वरील सर्व सोलर युनिट आपण

ज. वि. वि. वि.
कॉलेज
अपेक्षीची
३० कि.

AARA ENERGY या कंपनी कडून खरेदी



Maharashtra State Electricity Distribution Co. Ltd.

ELECTRICITY BILL FOR THE MONTH OF APR-2015 No 201504351725135
 GANESHKHAND CIRCLE S'NAGAR DIVISION 302 A S.N.C.C.SUB-DIVN. 597 35

er No.: 170019064740

MODERN COL

Customer Name: M/S MODERN COLLEGE OF ART COMMERCE & SCIENCE

Address: MODERN COLLEGE ROAD
SHIVAJI NAGAR

PUNE

Pin Code: 411005

Connected Load (KW): 300.00

Sanctioned Load (KW): 300.00

Contract Demand (KVA): 220

Sanctioned Demand (KVA): 220.00

50% of Con. Demand (KVA): 110.00

Meter No.: 053 - 06744483

Date of Connection: 11-01-2007

Tariff: 78 HT-IX N

Supply at: HT
ITC

Prev. Highest (Mth) MAR

Bill Demand (KVA) 149
old trf HT-II N I

Elec. Duty 06
PART B

BILL DATE	11-05-2015	
DUE DATE	25-05-2015	3,37,690.00
IF PAID UPTO	18-05-2015	3,34,960.00
IF PAID AFTER	25-05-2015	3,44,440.00
Last Receipt No./Date	2015984070 / 15-04-2015	
Last Month Payment		3,05,850.00
D.G. Set (KVA)		
Scale / Sector	Small Scale	Private Sector
Activity		
Seasonal	Load Shed Ind	INDUST
Express Feeder Flag		No
Feeder Voltage (KV) :-	11	

Urgent
Pl. pay by MIS
For registers the bill page to do the bill page
need bill page

Reading Date	KWH	KVAH	RKVAH (LAG)	KW (MD)	KVA (MD)
Current 30-04-2015	1374164.000	1467831.000	392069.000	25.286	27.632
Previous 31-03-2015	1368567.000	1461463.000	389198.000		
Difference	5597.000	6368.000	2871.000		
Multiplying Factor	5.0000	5.0000	5.0000	5.000	5.0000
Consumption	27985.000	31840.000	14355.000	126.430	138.160
Add if L. T. Metering	0.000	0.000	0.000	0.000	0.000
Adjustment	0.000	0.000	0.000		
Assessed Consumption	0.000	0.000	0.000		0.000
Total Consumption	27985.000	31840.000	14355.000	126.000	138.000

Billed Demand (KVA) 138 @ Rs. 190		Amount in Rs.	
Assessed P.F.	Avg. P.F. .890	Demand Charges	26,220.00
Billed P.F.	.890 L.F. 20	RLC Refund	.00
Consumption Type	Units Rate Charges Rs.	Energy Charges	2,14,085.25
Industrial	0 7.65 0.00	TOD Tariff EC	-956.50
Residential	0 4.82 0.00	FAC @ Ps/U	33,372.11
Commercial	27,985 7.65 214085.25	Electricity Duty	57,271.38
E.D. on (Rs.)	Rate % Amount Rs.	Other Charges	0.00
	9.3	Tax on Sale @ 8 Ps/U	2,238.80
	16	P.F. Penal Charges / P.F. Incentive	5,454.42
72,720.86	21 57271.38	Charges For Excess Demand	0.00
Zone	Units Demand Charges Rs.	Debit Bill Adjustment	0.00
'A' Zone	3,295 31.00 8,237.50	TOTAL CURRENT BILL	3,37,685.46
'B' Zone	16,470 138.00 0.00	Current Interest 09/05/2015	0.00
'C' Zone	5,870 127.00 4,696.00	Principal Arrears	0.35
'D' Zone	2,350 70.00 2,585.00	Interest Arrears	0.00
In words) Rupees. THREE LAKH THIRTY-SEVEN THOUSAND SIX HUNDRED NINETY ONLY		Total Bill Amount (Rounded) Rs.	3,37,690.00
Security Deposit Head Rs.	5,45,900.00	Delayed Payment Charges Rs.	6,753.71
Add. S.D. Demanded Rs.	0.00	Amount (Rounded) Payable After 25-05-2015	344440
S.D. Arrears Rs.	0.00	Amount Rounded to Nearest Rs. (10/-)	

BILL MONTH	MAR-15	FEB-15	JAN-15	DEC-14	NOV-14	OCT-14
UNITS	26,030	21,655	19,825	20,890	15,915	19,060
BILL AMOUNT	3,08,381	2,61,216	2,73,522	2,86,834	2,13,067	2,39,070

Type - Municipal Corporation. In case the bill is received by permanently disconnected consumer, it should be brought to notice of concerned circle office. IF ELIGIBLE FOR ELECTRICITY DUTY EXEMPTION, APPLY ONLINE ON OUR WEBSITE www.mahadiscom.in.
 Address - 925, Kasba Peth, Admin. Building, 2nd Floor, Pune-411014. For HT Billing Problem pl. write to htgkoo@mahadiscom.in.
 Executive Engineer, block no. 202, Prakash Bhavan, 2nd floor, Senapati Bapat Rd, Pune-411016. Cr Adj. Rs. 2531 of type PROMPT
 DISCOUNT included in arrears; ; FAC on Units: 27985@119.25 p/u, Amount: 33372.11
 PROMPT DISCOUNT Rs. 2727 IF PAID ON OR BEFORE 18-MAY-15
 IF PAID BY CHEQUE/DD/PAY ORDER, THEN REALIZATION DATE WILL BE CONSIDERED AS PAYMENT DATE
 A Special desk is operational for HT Consumers. Please contact: htconsumer@mahadiscom.in for any Clarification/Query or Grievance.

PAY BY CHEQUE RTGS
 RS. 3,37,690.00
 PAYMENT DATE
 PRINCIPAL

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 1800-200-3435

PTO
 Chief Engineer (Commercial)
 Maharashtra State Electricity Distribution Co. Ltd.
 E. & O.E. and Subject to Conditions overleaf

① Generator: (Skt. Raju Jadhav)

- 1) Genset 85 kva make - Kohler (Comp. Dept. ²)
- 2) Genset - 50 kva make - Kirloskar (Prinicipal office ¹ Back side)
Amount of fuel used ?

② STP: (Skt. Raju Jadhav)

- 1) Genset no 1. Kirloskar make use of Main Bldg. admn. Bldg)
Amc - Omkar engineering works Pvt Ltd. - CTS no - 45101,
Mumbai Pune Rd. Chinchwad, Pune - 411019
 - 2) Genset no 2, Kohler make use of Comp. Dept. &
Biotech Bldg. -
Amc - V. Tech power systems - 2092 Pehun Chamber, Sadashiv
Peth, Pune - 40
- ③ Solar Energy products: (Skt. S.M. Raut)

P.E.S. Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Department: Mathematics

Year of Establishment: 1981

Assessment Year: 2014-15

Head of the Department:

Number of working days: Semester I.....115.....

Semester II.....135.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	7
2	Non-teaching	0
3	Research Students (including project assistants)	0
4	PG students	32
5	UG students	490
6	Junior College students	942
7	Any other	-
TOTAL		1471

2. Laboratories and Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	264	264
2	Special rooms, if any.	-	-
3	Any other	-	-
TOTAL		264	264

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	6	No.	
2	Printers, scanners, photocopy machines	2	No.	
3	Air Conditioners (ACs)	-		
4	Any other	-		

AMC: Annual maintenance contract

4. Do you maintain a dead stock register? Yes

5. Provide a description about furniture in the department. (Number of ² tables, ² working cabinets, ¹⁷ chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)

6. Do you maintain record of electricity consumption by the department? If yes, provide details. No.

7. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) 2 times.

8. Provide the details of student journals/manuals/record books, answer sheets (GSM of page, quantity etc.) ^{1) 490 Journals, each journal consists of 50 pages/sheets.}
9. Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. —
10. Number of trips made by department personnel for academic purpose by rail: Please provide in terms of total distance travelled. —
11. Number of trips made by department personnel for academic purpose by public transport by road: Please provide in terms of total distance travelled. —
12. Number of trips made by department personnel for academic purpose by car transport by road: Please provide in terms of total distance travelled and type of car (petrol/diesel/CNG etc). ^{350 km.}
13. Please provide the details of educational trips for students in the following table if any —

Sr. No	Class	Type of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate			
2	Post graduate			
3	Research scholars			

14. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	—	—
2	Bikes and scooters	Petrol	4	110 kms
3	Cars	Petrol	2	44 km.
4	SUVs/MUVs	Diesel	1	18 km.

15. Does the department arrange the annual social/gathering etc? If yes, Describe briefly. **No.**
16. Give the details of conferences/symposia/workshops arranged by department in this academic year. Describe briefly. —

Information provided above is verified and accurate to the best of my knowledge.

Head

Principal

Department of Mathematics

Modern College, Shivajinagar, Pune

Date:

Dr. Sunil D. Kulkarni, Department of Chemistry, Sir Parashurambhau College, Tilak Road, Pune
Email: sunildkulkarni@gmail.com, Mobile: +91 95525 63358

P.E.S. Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Canteens

Assessment Year: 2014-15

Name of Responsible Authority:

Number of working days: Semester I.....⁰.....

Semester II.....

1. Number of canteens in the campus: 1.
2. Number of staff working in the canteen: 6
3. Provide a description about furniture in the canteen (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc).
Tables - 5 - wood
Chairs - 15 - plastic
Working cabinets - 2 - wood
4. How much kitchen waste or food waste created per day? 10 kg
5. How many LPG cylinders are used per year? 7 nos.
6. How much water is used per day - 1000 lit
7. Does the canteen sell packaged food? If yes, how many number of packages per day? (Packaged foods include packages of chips, biscuits, packaged bakery products etc.)
Yes,
sell packaged food per day - 50.

Competent Authority

Principal

Modern College, Shivajinagar, Pune

Date: 02/06/2015

Carbon Foot printing questionnaire

Establishment and House Keeping

Assessment Year: 2014-15

Office superintendent/ Registrar:

1. Number of staff working towards day-today cleanliness of the campus:
2. Amount of solid waste generated in everyday cleanliness: Kg.
3. Amount of biodegradable solid waste generated per day in the campus gardens Kg.
4. Total number of pantries in the college other than hostels and canteens:
5. Total number of LPG gas connection in the campus other than hostels and canteens:
6. Total number of LPG gas cylinders required for these pantries per year
7. Type of LPG gas cylinder: (i) Domestic (ii) Commercial
8. Amount of fertilize (organic and chemical) required for maintaining of gardens.
9. Sources of water for the campus:
 - i. Number of bore wells in the campus
 - ii. Number of total water tankers required in current academic year
 - iii. Number of PMC water connection and capacity.
 - iv. Total number of water storage tanks in the campus:
 - v. Provide water storage capacity of each tank.
 - vi. How many times the water tanks are filled per day?
10. How much water is required per day for entire campus? (including hostel)
11. Electricity consumption details. (including hostel)
 - i. Total number of electricity connections in the campus:.....
 - ii. Attach photocopies of electricity bills of one month for each connection.
12. How much is the total built up area of the campus? (sq. ft)
13. Give a brief description about the building repair work in the current academic year
14. How are unusable materials (equipments, computers, furniture or any other) disposed?
15. Whether student parking space is available? If yes, how many vehicles are parked every day?
16. Whether vehicle passes are provided to students? If yes, how many?

Information provided above is verified and accurate to the best of my knowledge.

Office superintendent/ Registrar:

Principal

Modern College, Shivajinagar, Pune

Date:

Carbon Foot Printing Questionnaire

Department: Zoology

Year of Establishment: 1979

Assessment Year: 2014-15

Head of the Department: Narendra M. Naidu

Number of working days: Semester I.....

Semester II.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	07
2	Non-teaching	06
3	Research Students (including project assistants)	06
4	PG students	—
5	UG students	318
6	Junior College students	437
7	Any other	—
TOTAL		774

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space (HOD)	155	155
2	Research	312	312
3	Post graduate	626	626
4	Graduate		
5	Junior College students	1260	1260
6	Special Labs (preparation room etc.)	118	118
7	Any other	135	135
TOTAL		2606	2606

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	2	NO	NA.
2	Printers, scanners, photocopy machines	1	↓	
3	Computers attached to equipments	0		
4	Refrigerators/Deep freezers etc	2		
5	Air Conditioners (ACs)	1		
6	Small lab equipments	6		
7	Any other	—		

- 25 tables L¹ wooden
- 15 Metal Cupboards
- 4 Museum Cupboards - [Wood + Glass]
- 1 Large Wooden Cupboard 11
- 15 Cushion Chairs
- 106* Wooden Stools

AMC: Annual maintenance contract NO.

4. How frequently is the maintenance of equipments done? As per requirement
5. Do you maintain a dead stock register? YES
- *6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)
7. Are there unusable equipments in the department? How do you dispose them off? Yes. Write off. Then College disposes
8. Do you maintain a log book for use of consumables? NO BUT Yearly Stock.
9. Do you maintain record of electricity consumption by the department? If yes, provide details. NO
10. How much of bio-degradable solid waste is generated by the department per week? (kg) N/A. No dissections
11. How much of non bio-degradable solid waste is generated by the department per week? (Including disposed instruments broken glassware, metallic waste, plastics etc.) Less than 1kg BUT NOT every week
12. Provide the details of chemicals used per week in the table below*-

Sr. No.	Type of chemical	Quantity (kg)	Total volume (L)
1	Common Chemicals (Acids, salts etc)	1/2 kg	1/2 L
2	Specialty chemicals	NA	NA
3	Solvents	—	—
4	Any other	—	—

*Please provide approximate values in case exact calculation is not possible

13. How much water is used by the department per day?

Sr. No.	Use	Quantity (L)	Total volume (L)
1	Drinking	—	20L
2	Laboratory Experiments	—	10L
3	Distillation	—	—

14. Is water used for distillation recycled? NA
15. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other purpose) ONE to TWO
16. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) Lab Journals 670 X 120 pages each; Ans. sheets - College record.
17. Do you have LPG cylinder connection? If yes, how many cylinders are utilized per year? TWO
18. Number of foreign or inland trips made by department personnel for academic purpose.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	NA
2	Rail	
3	Road (Public transport)	Occasional
4	Road (personal vehicle)	

19. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Tempo Traveller/Wheeler	Petrol/Diesel	80-100 kms
2	Post graduate	—	—	—
3	Research scholars	—	—	—

20. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel ✓	03	60+30+16=106
2	Bikes and scooters	Petrol	12	224
3	Cars (i) Petrol	—	—	—
	(ii) Diesel	—	—	—
4	SUVs/MUVs	—	—	—

21. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). *College level*

22. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

State level Seminar - 6th & 7th Feb 2015
No. of days: TWO
Participants: 160

Information provided above is verified and accurate to the best of my knowledge.

W. W. Waidu

Head

Principal

Department of Zoology

Modern College, Shivajinagar, Pune

Date: *01/06/2015*

P.E.S. Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Department: Library

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Mrs. M. S. Datre

Number of working days: Semester I...145.....

Semester II...144.....

- Total number of staff in the library: 16
- Total number of books in the library: 96132
- Infrastructure:

Sr. No.	Name of the inventory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	334	334
2	Library/reading room	2342	2342
3	Any other <i>Stacking area</i>	4608	4608
4	<i>(Main + Dept + BBA Digital Library)</i> TOTAL	339	339

(Note: Do not repeat the information if a lab is used for more than one course)

- Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	37	Yes	
2	Printers, scanners, photocopy machines	10	-	
3	Air Conditioners (ACs)	-	-	
4	Any other <i>visually challenged (Anger player)</i>	1	-	

AMC: Annual maintenance contract

- Provide a description about furniture in the library. (Number of tables, cupboards, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)
*47-wood/3-wood/5-metal/1-metal/
Wood-180 Plastic-36/*
- Do you maintain record of electricity consumption? If yes, provide details. *NO*
- How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other academic purpose) - *5 Rim*
- Provide the details of paper used in the library other than A4 size. (Reams) - *Barcode/Book Pocket*
- Number of foreign or inland trips made by department personnel for academic purpose by air: Please provide in terms of total distance travelled. - *NA*
- Number of trips made by department personnel for academic purpose by rail: Please provide in terms of total distance travelled. - *pune-mumbai & Back - 330 km*

11. Number of trips made by department personnel for academic purpose by public transport by road: Please provide in terms of total distance travelled. *NA*
12. Number of trips made by department personnel for academic purpose by car transport by road: Please provide in terms of total distance travelled and type of car (petrol/diesel/ CNG etc). *NA*
13. Provide the details of transport facility used by staff in the following table-

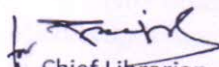
Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	3	85 km
2	Bikes and scooters		12	252 km
3	Cars	<i>diesel</i>	1	22 km
4	SUVs/MUVs	—	—	—

14.

Does the department arrange the annual social/gathering etc? If yes, Describe briefly. *No*

15. Give the details of conferences/symposia/workshops arranged by department in this academic year. Describe briefly. *National Seminar on "Impact of E-publication on Higher Education & Librarianship" on 17th & 18th march 2015*

Information provided above is verified and accurate to the best of my knowledge.


Chief Librarian

Principal

Modern College, Shivajinagar, Pune

Date:

CARBON FOOT PRINTING

Department of Botany

1. Staff and students
 - a. Teaching – 12
 - b. Non teaching – 8
 - c. Research students – 7
 - d. PG students – 48
 - e. UG Students – 315
 - f. Junior college students – 440
 - g. Any other – NA
2. Labs and infrastructure : Total and usable area is as follows.
 - a. Seating /office space 439 sq. ft.
 - b. Research 330 sq. ft.
 - c. Post graduate 600 sq.ft.
 - d. Graduate 990 sq. ft.
 - e. Junior college students Lab of Sr. College
 - f. Special labs Tissue Culture Lab = 120 sq. ft.
 - g. Any other
3. Computer and peripherals AMC
 - a. Computers – 5 Yes
 - b. Printers, scanners- 3 printers + 1 scanner Yes
 - c. Computers attached to the equipments- 2 Yes
 - d. Refrigerators – 3, Deep Freezers – 1 No
 - e. ACs – 3 No
 - f. Small lab equipments – 82 No
 - g. Any other - NA
4. Microscopes are serviced every year, other lab instruments are serviced only when they malfunction.
5. Dead stock register is maintained.
6. Furniture

a. Tables-	wooden 7	metallic 1	plastic Nil
b. Working cabinets	wooden Nil	metallic Nil	plastic Nil
c. Chairs	wooden 10	metallic 05	plastic 09
d. Cupboards	wooden 05	metallic 42	plastic Nil
7. There are few non-usable instruments in the department. At present, they are dumped at convenient places. Whenever such instruments were disposed off, the standard procedure of the college was followed.
8. Log book of use of consumables is not maintained as such. However, a separate file of requirements requested by the staff for the practicals and by students for the project work and research are maintained.
9. The record of electricity consumption is not maintain at the departmental level.
10. Biodegradable solid waste – 7-8 kg per week
11. Non-biodegradable solid waste – 5-6 kg per week
12. Details of chemicals used

Type	quantity (kg)	volume (L)
a. Common chemicals	0.5 kg	
b. Specialty chemicals	100 g	
c. Solvents	500 ml	
d. Any other	NA	

13. Use of water per day

- a. Drinking 50 lit
- b. Lab experiments 30 lit
- c. Distillation 30 lit

14. Water used for distillation is not recycled.

15. A4 paper – 9 rims per semester

16. Journals

- a. Jr. College – About 90 GSM paper * 100 A4 sheets * 440 students
- b. Sr. College – About 90 GSM paper * 120 A4 sheets * 315 students + 250 GSM paper Herbarium sheet size * 150 students * 5 sheets each
- c. PG students – About 90 GSM paper * 200 A4 sheets * (24 students * 2 practical courses + 24 students * 2 practical courses)

17. Department has LPG connection, number of cylinders required per year = 5

18. Number of trips

Mode	distance travelled (km)
a. Air	2 staff, 2012-13 and 2014-15 Pune to Delhi and back, otherwise usually no air travel
b. Rail	1 staff 800 km
c. Road (Public Transport)	3000 km per year
d. Road (personal vehicle)	--

19. Industrial trips

Class	type and number of vehicles	fuel used	distance (km)
a. Graduate	---	---	5 km
b. Post graduate	Public transport, one vehicle	Diesel	50 km
c. Research scholars	Public transport	Diesel	1000 km

20. Transport facility

Vehicle type	fuel	number of staff	distance travelled per day (km)
a. Public transport	diesel	4	210
b. Bikes and scooters	petrol	17	300
c. Cars – petrol	petrol	2	40
d. Car – diesel	--	--	--
e. SUVs/MUVs	--	--	--
f. Railway	--	1	80 km

21. Welcome party to the M.Sc. I students and send off function of TYBSc and MSc II students

- a. Food – Working lunch arranged for a group of 70-90 people
- b. Water – from the department, approx. 100 lit is used per function
- c. Paper – feedback forms from 50 students, 24 students * 6 A4 sheets + 24 students * 3 A4 sheets
- d. Plastics – about 60-70 plastic cups for serving tea
- e. Packaging used – paper for wrapping the gift articles, flowers and bouquets.

22. International conference on 'Application of Advanced technology for enhancing quality of science education' organized on 26th and 27 February 2015. Number of participants - 450

Information provided above is verified and accurate to the best of my knowledge.

Head,
Department of Botany

Date: 4/6/2015

Principal
Modern College of Arts, Science and
Commerce, Pune-5

Carbon Foot Printing Questionnaire

Department: Electronic Science

Year of Establishment: June 1993

Assessment Year: 2014-15

Head of the Department: Prof. S. R. Chaudhari

Number of working days: Semester I.....120.....

Semester II.....120.....

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	14
2	Non-teaching	07
3	Research Students (including project assistants)	02
4	PG students	44
5	UG students	430
6	Junior College students	100
7	Any other	7
TOTAL		597

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space	158.86	140
2	Research	30	30
3	Post graduate	600	600
4	Graduate	940 + 319	1260
5	Junior College students	-	-
6	Special Labs (preparation room etc.)	-	-
7	Any other	hand lab Acad lab	60 sq. feet
TOTAL			

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	AMC (yes/No)	Remark if any
1	Computers	41	NO	-
2	Printers, scanners, photocopy machines	03	NO	-
3	Computers attached to equipments	-	-	-
4	Refrigerators/Deep freezers etc	-	-	-
5	Air Conditioners (ACs)	01	-	Damage d
6	Small lab equipments	200	NO	-
7	Any other electronic kits	240	-	practical board

AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? (Maintenance log book) *yearly.*
5. Do you maintain a dead stock register? *yes* *40 wood.*
6. Provide a description about furniture in the department. (Number of tables, working cabinets, chairs etc. Also mention if they are made of metal/plastic/wood/cement etc)
7. Are there unusable equipments in the department? How do you dispose them off? *yes. by certifying through junk.*
8. Do you maintain a log book for use of consumables? *NO.*
9. Do you maintain record of electricity consumption by the department? If yes, provide details. *NO*
10. How much of bio-degradable solid waste is generated by the department per week? (kg) *NIL*
11. How much of non bio-degradable solid waste is generated by the department per week? *200 gm/week*
(including disposed instruments broken glassware, metallic waste, plastics etc.)
12. How many number of A4 size paper rims are consumed per semester? (including for research, administration or any other purpose) *one rim.*
13. Provide the details of student laboratory journals/manuals/record books, answer sheets (GSM of page, quantity etc.) *560 students, 450 manual, 700 journal, answer sheet 2000/-*
14. Number of foreign or inland trips made by department personnel for academic purpose by air:
Please provide in terms of total distance travelled.

Sr. No.	Mode	Total distance travelled in (km)
1	Air	-
2	Rail	-
3	Road (Public transport)	2000 km
4	Road (personal vehicle)	600 km.

15. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type and number of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Put. bus	diesel.	350 km.
2	Post graduate	out. bus	diesel.	300 km
3	Research scholars	-	-	-

16. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	06	340 km.
2	Bikes and scooters	petrol.	13	2650 km.
3	Cars (i) Petrol	<input checked="" type="checkbox"/>	02	52 km.
	(ii) Diesel	-	-	-
4	SUVs/MUVs	-	-	-

17. Does the department arrange the annual social/gathering and other functions? If yes, Describe briefly for each function resources used such as food, electricity, water, paper, plastics, packaging used etc). Yes, send off. function, welcome function. contract basis.
18. Give the details of conferences/symposia/workshops arranged by department in this academic year with reference to number of days and number of participants.

NIL

Information provided above is verified and accurate to the best of my knowledge.


22/05/15

Head
P. S. R. Chaudhari
Department of Electronic Science

Date: 22/05/2015

Principal
Modern College, Shivajinagar, Pune

P.E.S. Modern College, Shivajinagar, Pune

Carbon Foot printing questionnaire

Department: Physics

Year of Establishment: 1970

Assessment Year: 2014-15

Head of the Department: Prof. A.V. Deshpande

Number of working days: Semester I..... 120

Semester II..... 120

1. Staff and students:

Sr. No.	Specification	Number
1	Teaching (including CHB, ADHOC)	8 + 2 CHB
2	Non-teaching	13
3	Research Students (including project assistants)	-
4	PG students	-
5	UG students	402
6	Junior College students	938
7	Any other	-
TOTAL		1372

JV
(6 + 3 (HRS))

2. Laboratories and Infrastructure:

Sr. No.	Name of Laboratory	Total Area (sq. Ft.)	Usable Area (sq. Ft.)
1	Seating/office space		
2	Research	-	-
3	Post graduate	-	-
4	Graduate		
5	Junior College students	362.85 sqm 3906 sq. ft.	3906 sq. ft.
6	Special Labs (preparation room etc.)	-	-
7	Any other		
TOTAL		3906 sq. ft.	3906 sq. ft.

(Note: Do not repeat the information if a lab is used for more than one course)

3. Computers, peripherals and equipments

Sr. No.	Particulars	Number	*AMC (yes/No)	Remark if any
1	Computers	17	YES	
2	Printers, scanners, photocopy machines	3	YES	
3	Computers attached to equipments	-	-	
4	Refrigerators/Deep freezers etc	1	No	
5	Air Conditioners (ACs)	-	1	
6	Small lab equipments	400	No	
7	Any other			

*AMC: Annual maintenance contract

4. How frequently is the maintenance of equipments done? (Maintenance log book)

There is no such freqⁿ of maintaining instruments. Repeatable instruments

Dr. Sunil D. Kulkarni, Department of Chemistry, Sir Parashurambhau College, Tilak Road, Pune

are maintained

Email: sunildkulkarni@gmail.com, Mobile: +91 95525 63358

20. Number of trips made by department personnel for academic purpose by public transport by road: Please provide in terms of total distance travelled. *N/A*
21. Number of trips made by department personnel for academic purpose by car transport by road: Please provide in terms of total distance travelled and type of car (petrol/diesel/ CNG etc). *N/A*
22. Please provide the details of industrial trips for students in the following table if any-

Sr. No	Class	Type of vehicle	Type of fuel used by the vehicle	Distance travelled
1	Graduate	Bus	Diesel	250 km
2	Post graduate	-	-	-
3	Research scholars	-	-	-

Study tour NCRA

23. Provide the details of transport facility used by staff in the following table-

Sr. No	Type of vehicle	Type of fuel used by vehicle	Number of staff	Distance travelled
1	Public Transport	CNG/Diesel	-	-
2	Bikes and scooters	Petrol	32	480 km.
3	Cars	Petrol	2	80 km.
4	SUVs/MUVs	-	-	-

24. Does the department arrange the annual social/gathering etc? If yes, Describe briefly. *Send off to TybSc students.*
25. Give the details of conferences/symposia/workshops arranged by department in this academic year. Describe briefly. *Not Applicable*

Information provided above is verified and accurate to the best of my knowledge.

S. S. Thorge
Head

Department of Physics

3/6/2015
Principal

Modern College, Shivajinagar, Pune

Date: 3/6/2015

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