

Environmental Awareness Among the students and Teachers of Higher Education: Survey 2020

^aChandrakant M. Borase, ^bSushmavati J. Patil

^aPrincipal, ^bAssociate Professor, MVP Samaj's Adv. V. H. College of Education, Nashik, Maharashtra, India

Abstract

The present research study was mainly concerned with Environmental awareness among the teachers, teacher educators and students associated with higher education. The sample is 1004 teachers, teacher educators and students of higher education from various universities of Maharashtra State. Data was collected by online survey by using 'Google form' link, in it 20 multiple choice questions were given. The data was analyzed and presented by using histogram, pi-chart, tables and percentages.

KEYWORDS: World Environment Day, Environmental Awareness, United Nation, Bio-diversity

Introduction:

"World Environment Day" is promoted by the United Nation. This year Colombia has been chosen as the country to host the World Environment Day-2020 event in collaboration with Germany. The theme of World Environment Day-2020 is "Celebrate Biodiversity". The Environment Protection Act is enacted in the year 1986 with the main objective to provide the protection and improvement of environment.

According to the 2019 report, the total forest cover of the country is 712,249 sq. km. (21.67 % of India's total geographical area) slightly up from 708,273 sq. km. (21.54 %) in 2017. India's forest coverage is rising but the rate is very slow. To reach forest coverage up to 33% as per India's National Forest Policy, so many years will be required. Based on satellite data analysis, the biennial (every two year) assessment – conducted by the Forest Survey of India and released by the Ministry of Environment, Forest and Climate Change – has published the total forest and tree cover at 802,088 sq. km, which is 24.39 % of the geographical area of the country.

Environmental hazards increase the risk of cancer, heart disease, asthma, and many other illnesses. These hazards can be physical, such as pollution, toxic chemicals, and food contaminants, or they can be social, such as dangerous work, poor housing conditions, urban sprawl, and poverty. Environmental education is a process that allows individuals to explore environmental issues, engage in problem solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions

Objectives of the Research Study

1. To study the environmental issues, values and skills among students and teachers of higher education
2. To find out the level of environmental awareness and attitudes among students and teachers of various colleges and their sense of responsibility

Methodology of present research study

Descriptive survey method was used for present research study.

Sample

The sample for this research study is not specific. During the lockdown period due to Covid-19 pandemic, the Questionnaire developed in the form of Google Form by researcher and is circulated to the students and teachers of higher education by using different social media groups. Overall response is 1004.

Tools used for the study

The researchers who conducted this research used the test they created in the form of a Google Form for college students and teachers. For assessing the knowledge about environmental issues, values, skills and to find out the level of environmental awareness and attitudes among students and teachers of higher education the tool used was the this test in the form of ‘Google Form’ Link.

Procedure of the Study

Questionnaire i.e. Quiz in the form of ‘Google Form Link’ is circulated to the students and teachers working in various colleges through different Social Medias e.g. Whatsapp, Telegram and also by mails.

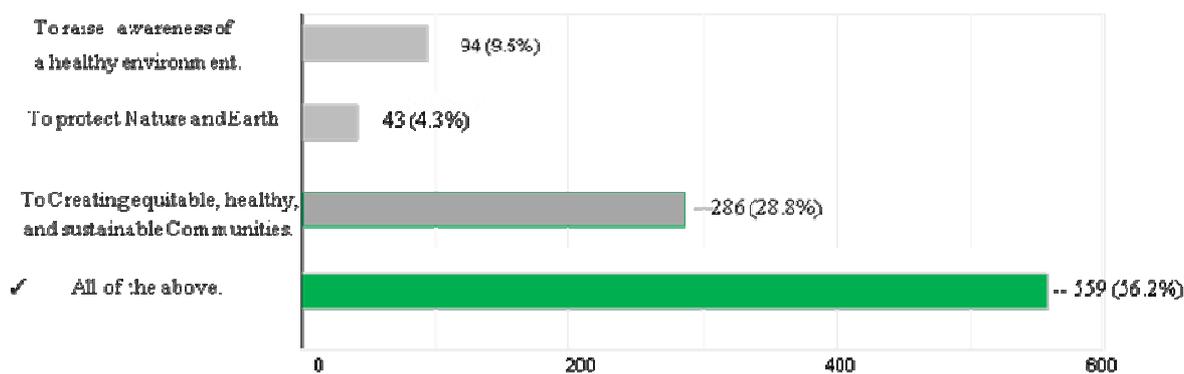
A total number of 20 multiple choice questions worth 40 points were administered in the quiz. All questions were made mandatory. Each question was given 2 points. The respondent participated in the quiz by following the URL link: <https://forms.gle/qhdkuiqnRNKTm4jX8>. Then the responses obtained in the form of ‘Google Forms’ be tabulated and analyzed.

Graphical Analysis of Responses of Multiple-Choice Questions (1–20).

The response of 1004 student-participants for each multiple-choice question is plotted in the form of a vertical bar graph. The response of the respondents is analysed from each graph. And the inference from analysis is mentioned at the bottom of each graph.

1. What are the main objectives behind the celebration of World Environment: Day (WED) on 5th June every year?

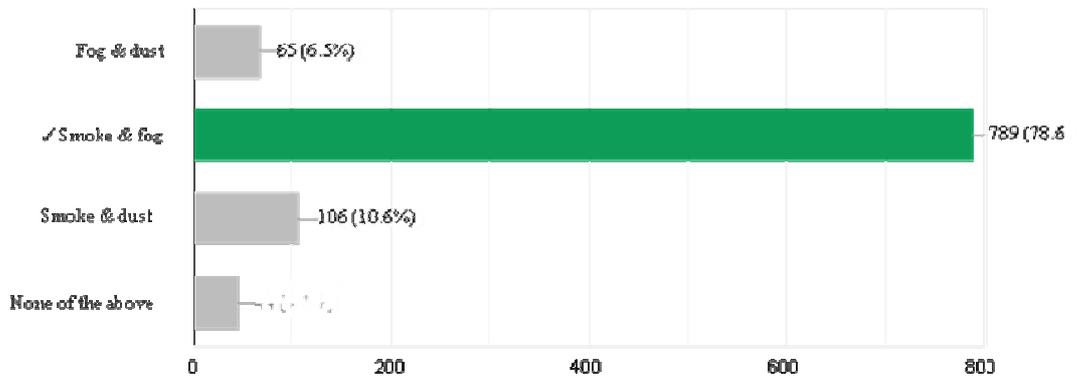
559 / 1004 correct responses



56% respondents know the objectives of celebration of “World Environment Day” every year.

2. Smog is a type of intense air pollution. It is derived from the words -----

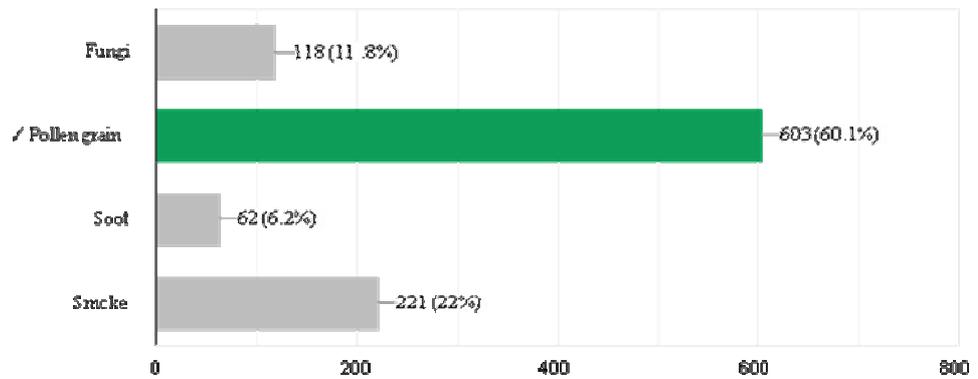
789 / 1,004 correct responses



Most participant (78%) know that smog is a mixture of smoke and fog. 11% participant have chosen the wrong answer as a mixture of smoke and dust.

3. Which is the most significant air-borne allergen?

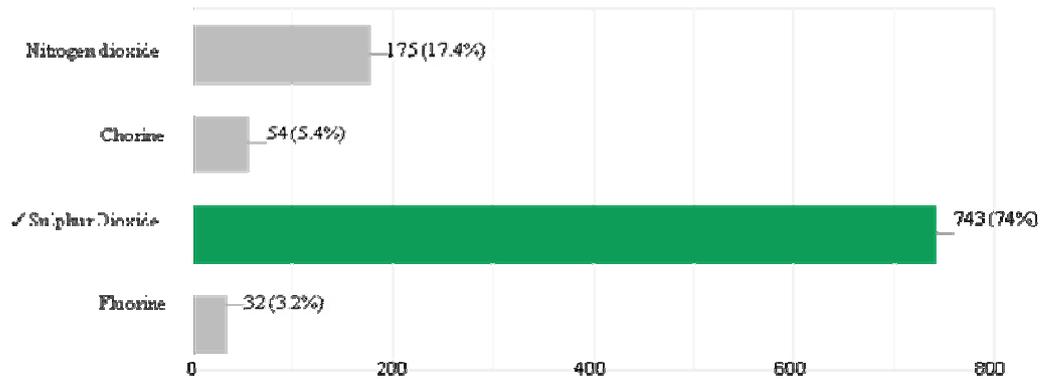
603 / 1,004 correct responses



60% of respondents know that pollen grain is the most significant air-borne allergen. 22% have chosen smoke and 11.8% have chosen fungi as wrong answers.

4. The outer surface of the Taj Mahal turning yellow is mostly due to excessive presence of ---in the air.

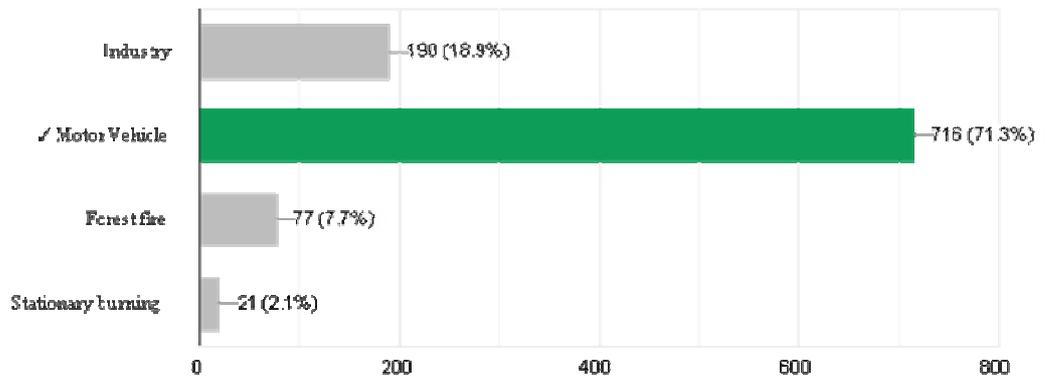
743 / 1,004 correct responses



Most of students (76%) agree that the exterior of the Taj Mahal is turning yellow is due to sulfur dioxide. However, 17% , 5% and 3% have chosen Nitrogen dioxide, Chlorine and Fluorine as wrong answers.

5. The major contribution of carbon monoxide is due to -----

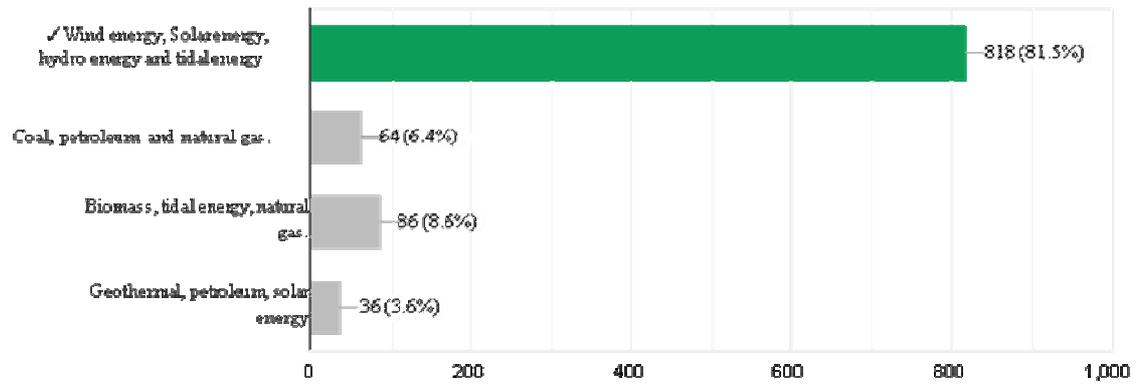
716 / 1,004 correct responses



Many students (71%) agree with the answer that motor vehicle is a major contributor to the carbon monoxide. Also, 19% and 8% students have chosen the wrong options: industry and forest fire respectively.

6. Which of the following is a list of renewable resources ?

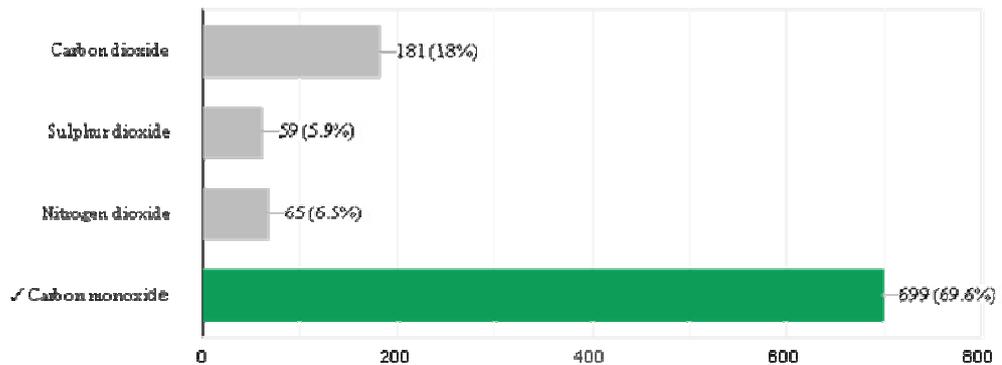
818 / 1,004 correct responses



The majority of students (81%) are aware of renewable energy sources. 15% students do not understand the difference between conventional and non-conventional energy sources. Few students (3.6%) have chosen conventional energy source as the wrong answer.

7. Incomplete burning of wood produces ---- poisonous gas.

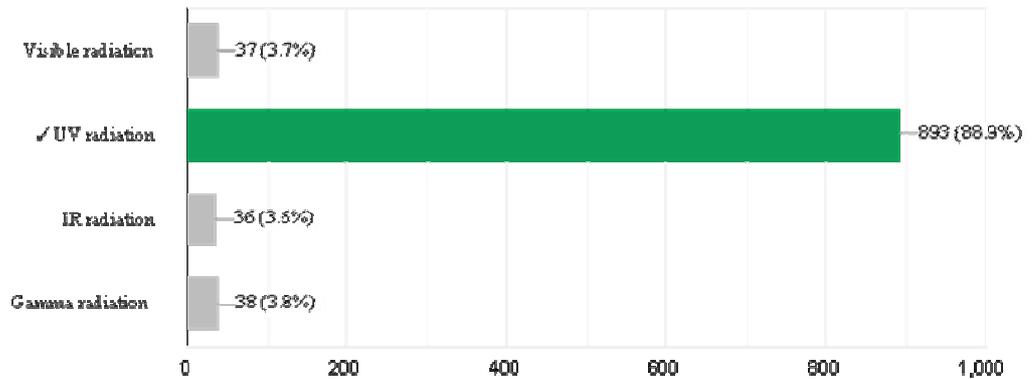
699 / 1,004 correct responses



About 70% students agree with the answer that partial combustion of wood produces CO gas. Also 18%, 6% and 5% students have chosen wrong answers CO₂, SO₂ and NO₂ respectively.

8. The ozone layer absorbs the hazardous ----- radiation from the sun, protecting life on Earth from its potentially harmful effects.

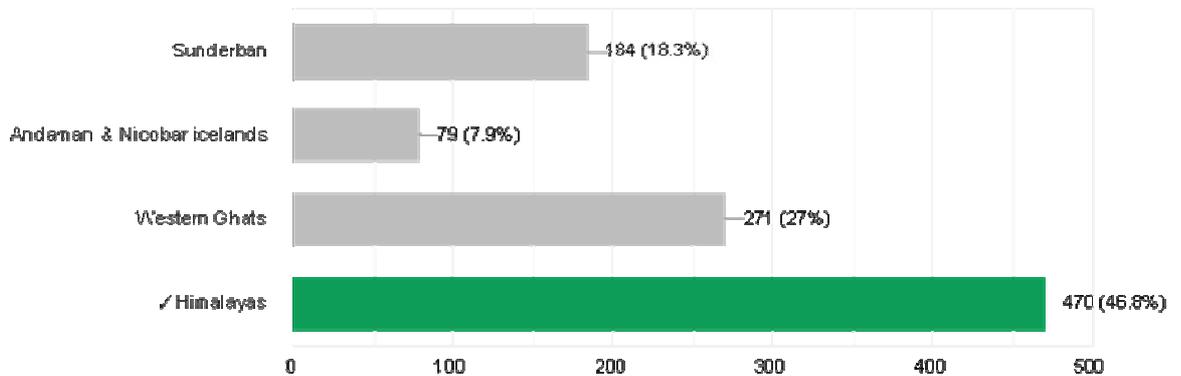
893 / 1,004 correct responses



The majority of students (88%) know that the ozone layer absorbs harmful UV rays from the sun and protects life on Earth. Also each 4% students group has chosen Visible, IR & Gamma radiations as wrong options.

9. Which is the largest biodiversity hotspot in India?

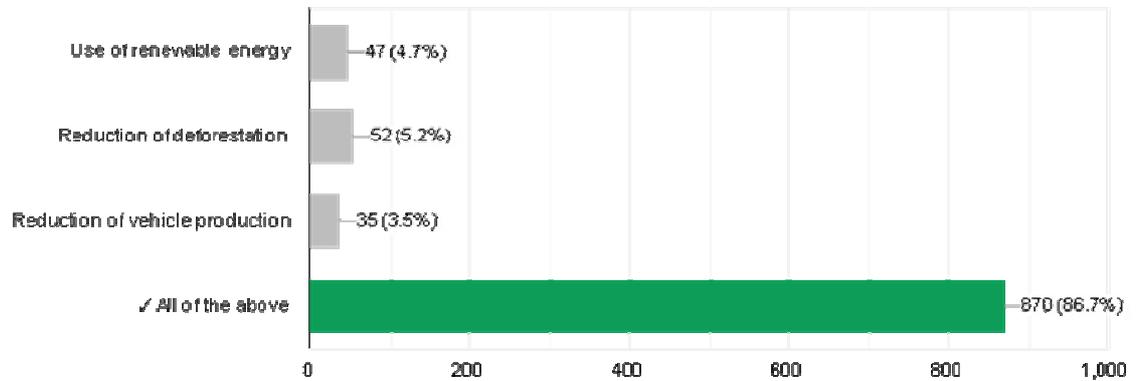
470 / 1,004 correct responses



Surprisingly, only 47% students know the Himalaya as the Largest Hotspot of Biodiversity. Also, 27%, 18% and 8% students have chosen Western Ghat, Sunderban and Andaman-Nikobar as the wrong answers.

10. Global warming can be controlled by -----

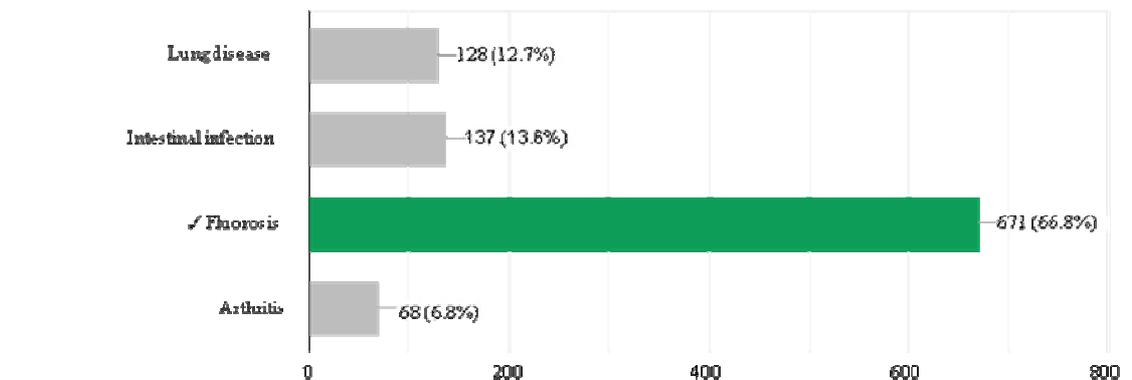
870 / 1,004 correct responses



The majority of students (87%) have the idea that global warming can be controlled by using renewable energy, reducing deforestation and vehicle production.

11. Excess of fluoride in drinking water causes -----

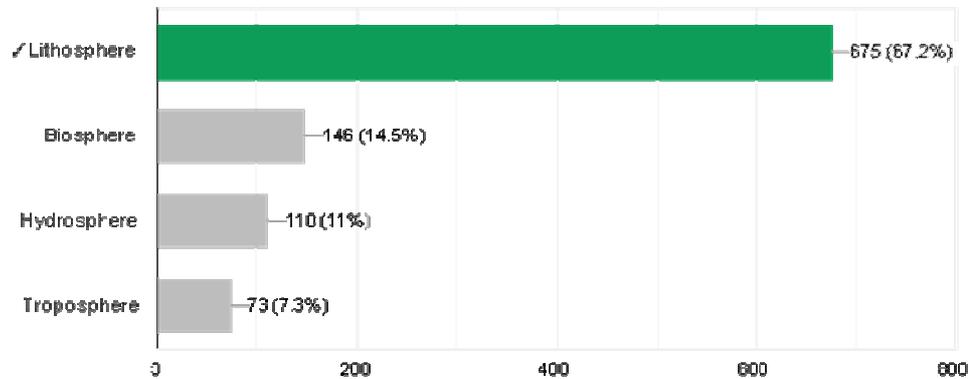
671 / 1,004 correct responses



67% respondents know that fluorosis (mottling of the teeth) is caused by high levels of fluoride in drinking water. Surprisingly, 13% and 14% students have linked it to lung disease and Intestinal infection.

12 Upper crust of the earth containing fossil fuels and minerals is known as -----

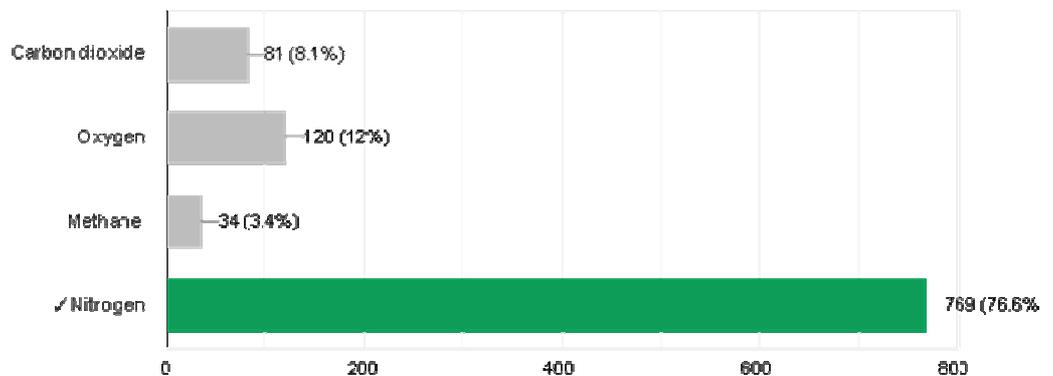
675 / 1,004 correct responses



About 67% students are aware of Earth's upper crust, which contains fossil fuels and minerals, is known as the lithosphere. 14%, 11% and 7% have selected biosphere, hydrosphere and troposphere as wrong answers.

13 ----- gas is present with 78% in the atmosphere.

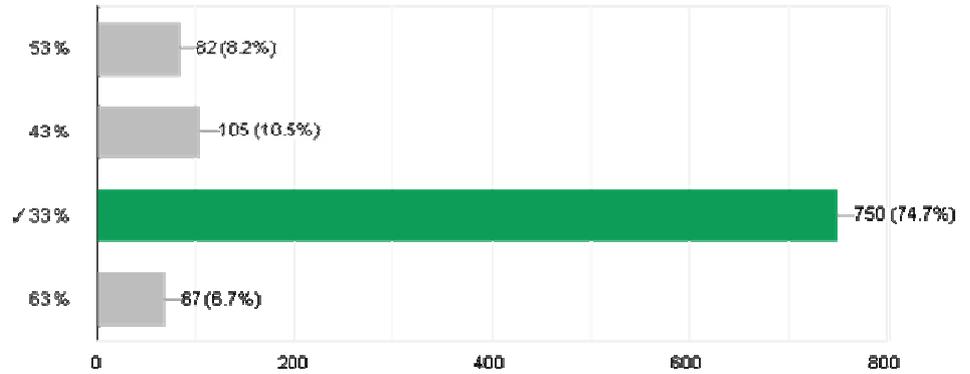
769 / 1,004 correct responses



Most students know that the amount of nitrogen in the atmosphere is 78%. 12%, 8% and 3.4% students have chosen wrong answers as O₂, CO₂ and CH₄ respectively.

14. According to the national forest policy of India what should be the % of forest coverage on land?

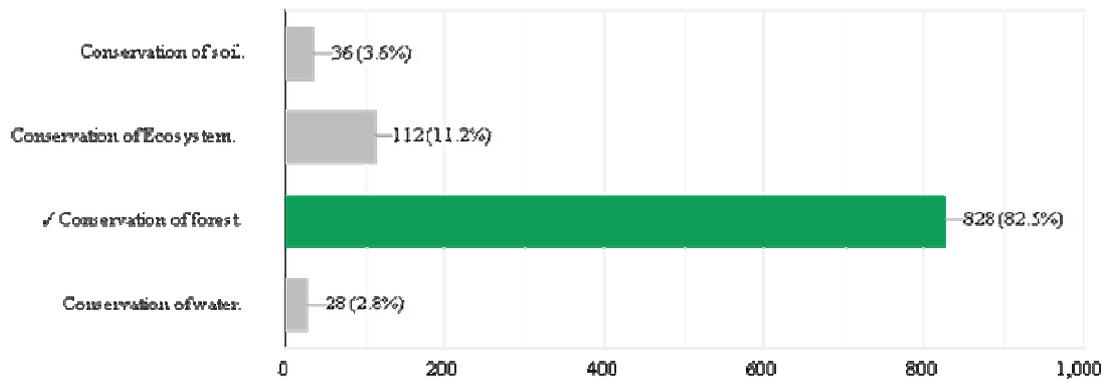
750 / 1,004 correct responses



Many students (74.7 %) are aware that according to India's National Forest Policy, the proportion of forest on land should be 33 percentage.

15 What was the main aim of the Chipko movement

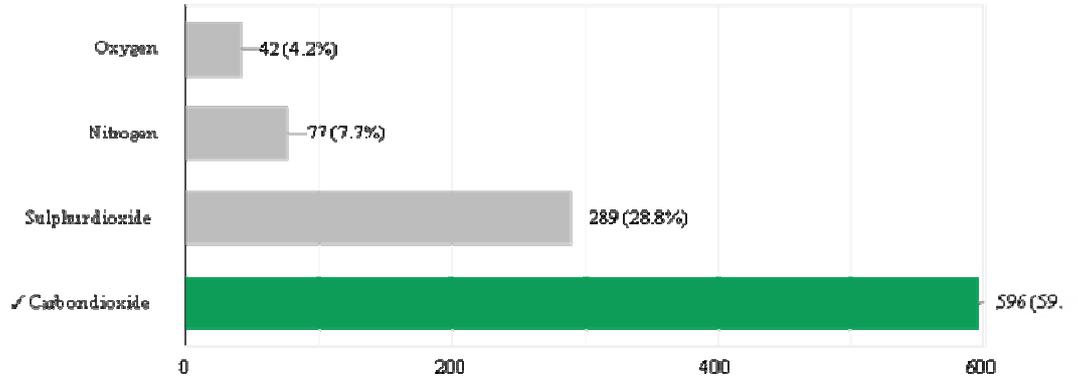
828 / 1,004 correct responses



Sunderlal Bahuguna, a noted environmentalist who initiated the Chipko Movement in 1973 for conservation of forest. Majority of respondents (82%) have chosen this correct answer.

16 Which gas is responsible for Ocean acidification?

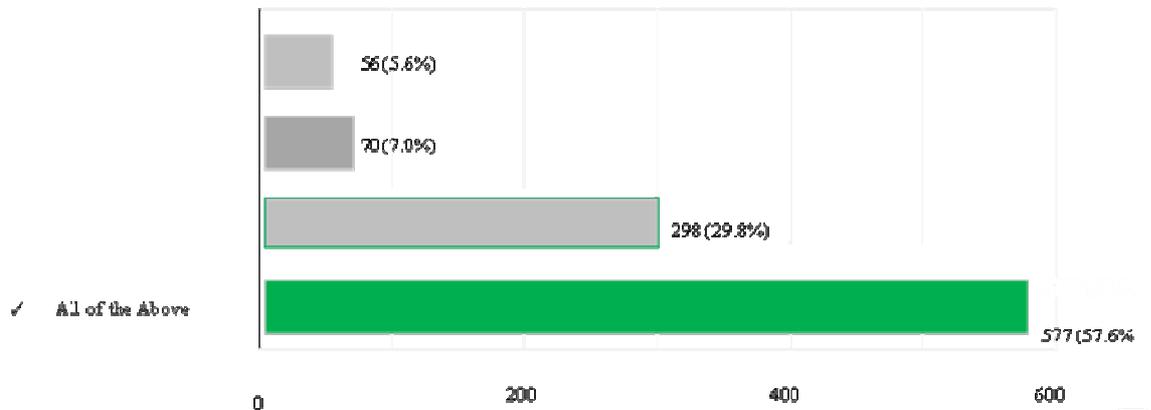
596 / 1,004 correct responses



59.6% participants are aware that carbon dioxide gas is responsible for ocean acidification. Nearly 29% of students chose the wrong answer - Sulfur Dioxide.

17. Which of the following statement(s) is/are correct?

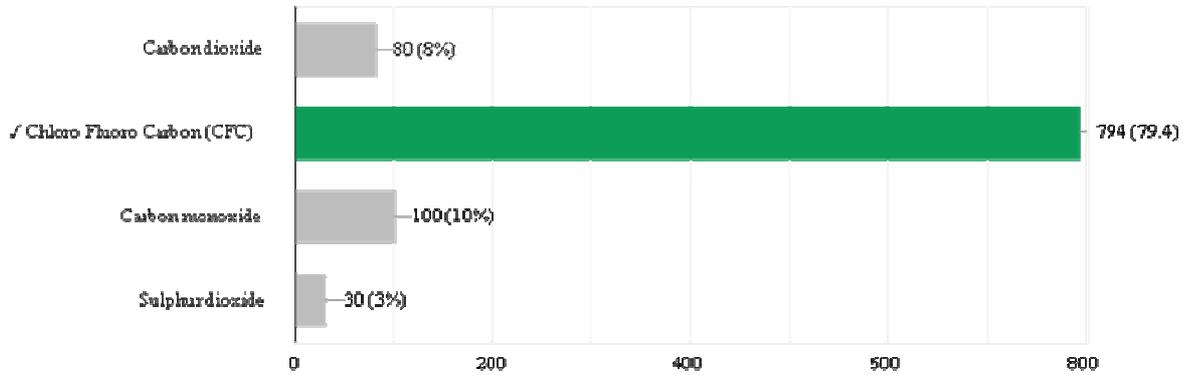
577 / 1,004 correct responses



Only 57.6% students are aware of diseases caused by water, air and noise pollution.

18. Which gas is responsible for depletion of ozone layer?

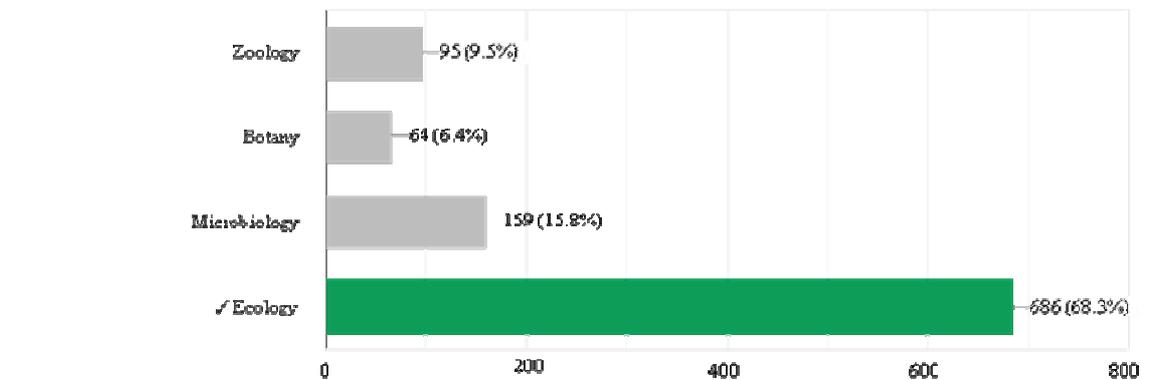
794 / 1,004 correct responses



Most students (79%) know that CFC gas is responsible for depletion of the ozone layer. 10% and 8% students have selected CO and CO₂ as incorrect answers.

19. — is the branch of biology that deals with the relations of organisms to one another and to their physical surroundings.

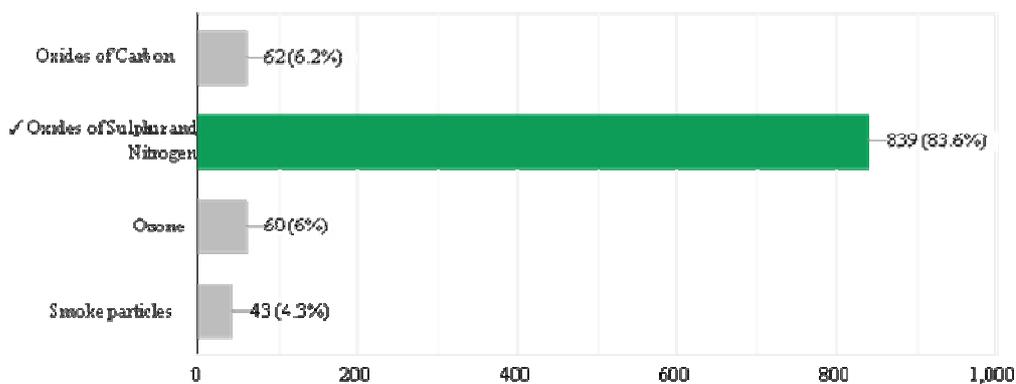
686 / 1,004 correct responses



68% participants know about ecology which deals with the relations of organisms to one another and to their physical surroundings.

20. Acid rain occurs when atmosphere is heavily polluted with -----

839 / 1,004 correct responses



The majority of respondents (83%) know the cause of acid rain -- atmosphere is heavily polluted with oxides of Sulphur and Nitrogen. 6.2%, 6% and 4.3% participants have selected oxides of Carbon, Ozone and smoke particles as incorrect answers.

Analysis of data obtained from the graphs

The online Environmental Awareness survey from the period 02 June to 27 June 2020 resulted in overwhelming response from the college students. A total of 1004 students from various colleges have been participated in this quiz. Student's responses were scored, and the data was analyzed using MS-Excel.

From the table below, the level of environmental awareness of the respondents were ranked from Low, Medium, High and Excellent on the basis of percentage scored by respondents. Out of the total 1004 student-participants investigated, only 154 students fall under the category of Low awareness level with the percent up to 40%. A number of 198 students fall under the Medium category of awareness level amounting to 41%-60%. The students with High level of environmental awareness 61%-80% made the count of 300. The students with Excellent awareness level 81%-100% made the largest count of 352. Thus, data from the study revealed on an average level of environmental awareness 68.7% among the college students.

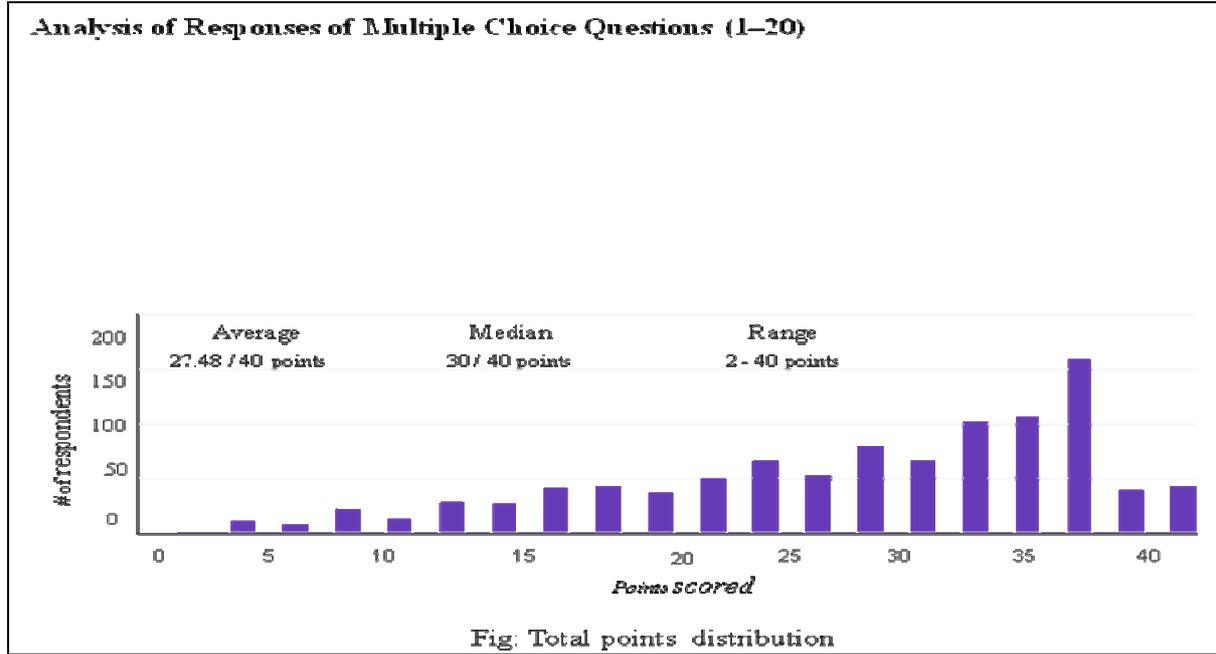


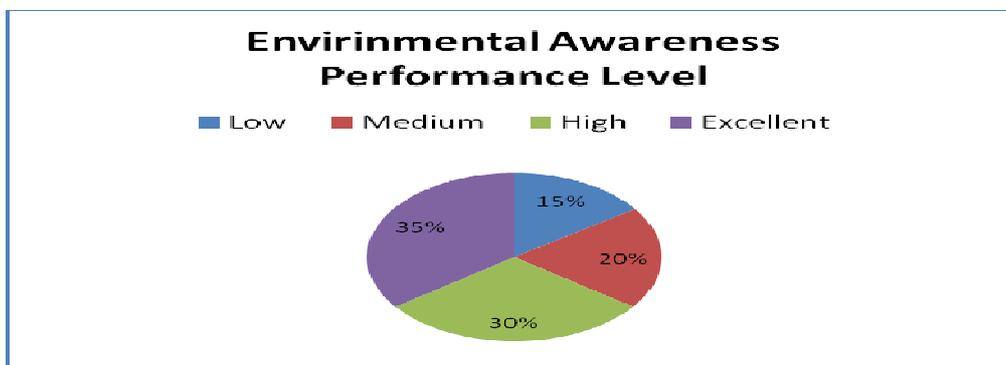
Table: Number of responses with points scored out of 40 and corresponding % score

(PT: Points Scored out of 40, NR: Number of Responses)

PT	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
NR		11	08	22	13	30	28	42	44	37	50	66	53	79	66	102	108	160	40	44
%	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100

Awareness level	Low		High	Excellent
No. of Respondents	154		300	352
Percent of Respondents	15%		30%	35%

Graph: Environmental Awareness Performance Level



Findings of the Research Study:

- 1) Only 15% teachers and students fall under the category of Low environmental awareness level.
- 2) The 20% teachers and students amounting to category of Medium environmental awareness level
- 3) The teachers and students with High level of environmental awareness made the count of 30%.
- 4) The teachers and students with excellent environmental awareness level made the largest count of 35%.
- 5) The average level of environmental awareness is found to be 68.7% among the college teachers and students.

Thus, it is very much evident from the present study that college students have very good environmental awareness knowledge. Students are a great force and can play a big role in protection of environment, if they are timely guided and helped regarding the understanding of environmental issues. To further increase environmental awareness and attitude of the students, integration of environmental education into curriculum and extra-curricular activities has to be started at graduate and post graduate level of all faculties. Also, the active participation of students can be useful in conserving the environment through the National Service Scheme (NSS). Students need to promote the plantation in surrounding areas. They should help the government and non-government organization in preventing pollution from the society by actively participating in programs and by giving the information of those who pollutes the environment.

Let us conserve, recycle, renew, reforest, minimize, analyze, and legislate all what is needed to review and rejuvenate our environment for better future of our coming generations.

References:

- 1) R. Rajagopalan: Environmental Studies – From Crisis to Cure, Oxford University Press.
- 2) Dr. K. M. Bhandarkar: Environmental Education, Nitya Nutan Prakashan, Pune.
- 3) Dr. D. R. Kulkarni: Environmental Education, Vidya Prakashan, Nagpur.
- 4) Ahirrao V.R., Walzade and others: Environmental Science, Nirali Prakashan, Nagpur,
- 5) Neeraj Kumar Sharma: A study on environmental awareness of college students, The online Journal of New Horizons in Education, Volume 4, issue 2.
- 6) Sundaravalli T: Student teachers' awareness on environmental pollution, International Journal of Teacher Educational Research (IJTER) vol. 1 (4) 52-58
- 7) Mohammed Abbas, Ripudaman Singh: A Survey of Environmental Awareness, Attitude, and Participation amongst University Students: A Case Study, International Journal of Science and Research (IJSR), Volume 3 Issue 5, May 2014
- 8) "Environment (Protection). Act, 1986" (PDF), Minister of Environment, Forest and Climate Change.
- 9) Forest Survey of India report-2019: Official Website: <https://fsi.nic.in/forest-report-2019>