DWARAKA DOSS GOVERDHAN DOSS VAISHNAV COLLEGE
(Autonomous)
College with Potential for Excellence, Linguistic Minority Institution
Affiliated to University of Madras
Arumbakkam, Chennai 600 106

CRITERION 1 - CURRICULAR ASPECTS
Key Indicator 1.3 - Curriculam Enrichment
1.3.4 Additional Information

Number of students undertaking field projects / internships / student projects under different Programmes - 2020-2021

Program Code	Programme name	Number of students undertaking field projects	Number of students undertaking Internships	Number of students undertaking Student Projects	Total Number of students undertaking field projects /internships/student projects
1	B.A.Economics - Shift I	117			117
2	B.A. Economics - Shift II	82			82
3	B achelor of Business Administration	215	194		409
4	B.Com (Bank Management)	143			143
5	B.Com (General)	505			505
6	B.Com - Corporate Secretaryship	354		346	700
7	Bachelor of Computer Application	110	-	-	110
8	B.Sc. Mathematics	86			86
9	B.Sc - Physics	45			45
10	B.Sc - Chemistry	47			47
11	B.Sc - Biochemistry	42			42
12	B.Sc Biotechnology	36	5		41
13	B.Sc - Plant Biology & Plant Biotechnology	36			36
14	B.Sc. Visual Communication	93	66	-	159
15	B.Sc - Computer Science	106	55	55	216

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20	M.Com		41	74	115
22	M.Sc - Physics			25	25
24	M.Sc - Biochemistry			24	24
25	M.Sc Biotechnology		14	14	28
26	M.Sc. Applied Microbiology		13	23	36
27	M.Sc - Computer Science			26	26
28	M.Sc -Information Technology			26	26
29	Master of Computer Application		49	53	102
30	Master of Business Administration	18	40	58	116
31	M.A Economics		11		11
33	Master of Social Work	45		40	85
34	M.A. Human Resource Management		39	40	79
35	B.Com - Honors	40	121	44	205
36	B.Sc. Mathematics with Computer Applications	25			25
38	B.A. Tamil	45			45

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39	B.A. English	67			67
41	B.A.Business Economics	18			18
42	B.A. Criminology and Police Administration	77	9	68	154
43	B.A.Sociology	60		67	127
45	B.Com - Accounting & Finance	207	27		234
47	B.Sc. Psychology	48			48
61	B.A. Journalism	20			20
62	B.Com - Finance & Taxation	42			42
63	B.Com- Marketing management	53	53		106
64	B.Sc.Statistics	27			27
65	M.A. English		19	16	35
	Total	**2809**	**756**	**999**	**4564**

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Department of Statistics shift-II
List of students who have undertaken field project during 2020-21
II YEAR B.SC STATISTICS ' A'

S.No	ROLL NO.	NAME
1	19E4301	GOUTHAM S
2	19E4302	DHYANESH T
3	19E4303	SRIRAM C
4	19E4304	PRASANTH M
5	19E4305	MADAVAN S
6	19E4306	ARAVINDRAJ V
7	19E4307	SURYAPRAKASH V
8	19E4308	ASHWIN KUMAR G
9	19E4310	ASHIF RAWTHER S
10	19E4312	ABINAYA P
11	19E4313	ARAVINDHAN A
12	19E4314	HARRISH S
13	19E4315	AKASH S
14	19E4316	MURALI KRISHNAN B
15	19E4317	SAJIDH UMAR M R
16	19E4318	THARUN RAJ S
17	19E4319	PARTHA SARATHY V
18	19E4320	GOKUL NATH R
19	19E4322	NAVEEN V
20	19E4323	AKASH S
21	19E4324	HARI HARAN R
22	19E4325	DHINESH KUMAR S
23	19E4326	RAHUL KUMAR S
24	19E4327	YOGESH R
25	19E4328	VISHVA S E
26	19E4331	POOJA S
27	19E4332	MANIKANDAN M

PRINCIPAL
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Signature and seal of HOD
Head
Department of Statistics
Dwaraka Doss Goverdhan Doss
Vaishnav College (Shift II)
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DEPARTMENT OF STATISTICS (shift-II)

REPORT ON FIELD PROJECT FOR THE YEAR 2020-21

The department of Statistics shift II conducted field project for the student of second B.Sc Statistics. The topic **Plastic Free Environment** was assigned to the students. The students organised G Meet among themselves and discussed methodology of doing the project.

Some of the major indicative are:-

- Pledge was taken during the Morning Prayer to make campus and village clean andtry to achieve plastic free.
- Bad effects of plastic on health and environment were discussed
- Students learned about awareness of plastic waste management
- Advised them to involve themselves in cleaning the selected village.
- Insisting the students to create awareness among their friends and relatives about usage of tree leaves, cloth bags etc.
- An average of 5.0 kg plastic per village has to collect and recycled to make plastic free environment around us.

S. Sundar

Signature and seal of HOD
Head
Department of Statistics
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DEPARTMENT OF STATISTICS (SHIFT-II)

EVS PROJECT

TOPIC: PLASTIC FREE ENVIRONMENT

PROJECT DONE BY

S.No	ROLL NO.	NAME
1	19E4301	GOUTHAM S
2	19E4302	DHYANESH T
3	19E4303	SRIRAM C
4	19E4304	PRASANTH M
5	19E4305	MADAVAN S
6	19E4306	ARAVINDRAJ V
7	19E4307	SURYAPRAKASH V
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INTRODUCTION

Plastic products have become an integral part of our daily life as a result of which the polymer is produced at a massive scale worldwide. On an average, production of plastic globally crosses 150 Million tonnes per year. Its broad range of application is in packaging films, wrapping materials, shopping and garbage bags, fluid containers, clothing, toys, household and industrial products, and building materials. It is estimated that approximately 70% of plastic packaging products are converted into plastic waste in a short span. Approximately 9.4 million TPA plastic wastes is generated in the country, which amounts to 26,000 TPD. Of this, about 60% is recycled, most of it by the informal sector. While the recycling rate in India is considerably higher than the global average of 20%, there is still over 9,400 tonnes of plastic waste which is either land filled or ends up polluting streams or groundwater resources. While some kinds of plastic do not decompose at all, others could take up to 450 years to break down. The figure captures per capita plastic consumption in FY 2014-15.
Plastics are not inherently bad, and they have many redeeming ecological features. Many of the techniques we utilize in our designs involve targeted use of plastic products. Their durability and low maintenance reduce material replacement, their light weight reduces shipping energy, their formulation into glue products allows for the creation of engineered lumber and sheet products from recycled wood, and their formulation into superior insulation and sealant products improves the energy performance of our structures. Once plastic is discarded after its utility is over, it is known as plastic waste. It is a fact that plastic waste

HARMFUL EFFECTS OF PLASTICS

Plastic is versatile, lightweight, flexible, moisture resistant, strong, and relatively inexpensive4. Those are the attractive qualities that lead us, around the world, to such a voracious appetite and over consumption of plastic goods. However, durable and very slow to degrade, plastic materials that are used in the production of so many products, ultimately, become waste. Our tremendous attraction to plastic, coupled with an undeniable behavioural propensity of increasingly over-consuming, discarding, littering and thus polluting, has become a combination of lethal nature. The disposal of plastics is one of the least recognized and most highly problematic areas of plastic's ecological impact. Ironically, one of plastic's most desirable traits: its durability and resistance to decomposition, is also the source of one of its greatest liabilities when it comes to the disposal of plastics. Natural organisms have a very difficult time breaking down the synthetic chemical bonds in plastic, creating the tremendous problem of the material's persistence. A very small amount of total plastic production (less than 10%) is effectively recycled; the remaining plastic is sent to landfills, where it is destined to remain entombed in limbo for hundreds of thousands of years, or to incinerators, where its toxic compounds are spewed throughout the atmosphere to be accumulated in biotic forms throughout the surrounding ecosystems.

GROUNDWATER AND SOIL POLLUTION

Plastic is a material made to last forever, and due to the same chemical composition, plastic cannot biodegrade; it breaks down into smaller and smaller pieces5. When buried in a landfill, plastic lies untreated for years. In the process, toxic chemicals from plastics drain out and seep into groundwater, flowing downstream into lakes and rivers. The seeping of plastic also causes soil pollution and have now started resulting in presence of micro plastics in soil.

POLLUTION IN OCEANS

The increased presence of plastic on the ocean surface has resulted in more serious problems. Since most of the plastic debris that reaches the ocean remains floating for years as it does not decompose quickly, it leads to the dropping of oxygen level in the water, severely affecting the survival of marine species. Materials like plastic are non-degradable which means they will not be absorbed and recycled. When oceanic creatures and even birds consume plastic inadvertently, they choke on it which causes a steady decline in their population.

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DANGEROUS FOR HUMAN LIFE

Burning of plastic results into formation of a class of flame retardants called as Halogens. Collectively, these harmful chemicals are known to cause the following severe health problems: cancer, endometriosis, neurological damage, endocrine disruption, birth defects and child developmental disorders, reproductive damage, immune damage, asthma, and multiple organ damage.

Figure: Whale killed by plastic waste

Figure: Plastics recovered inside the whale

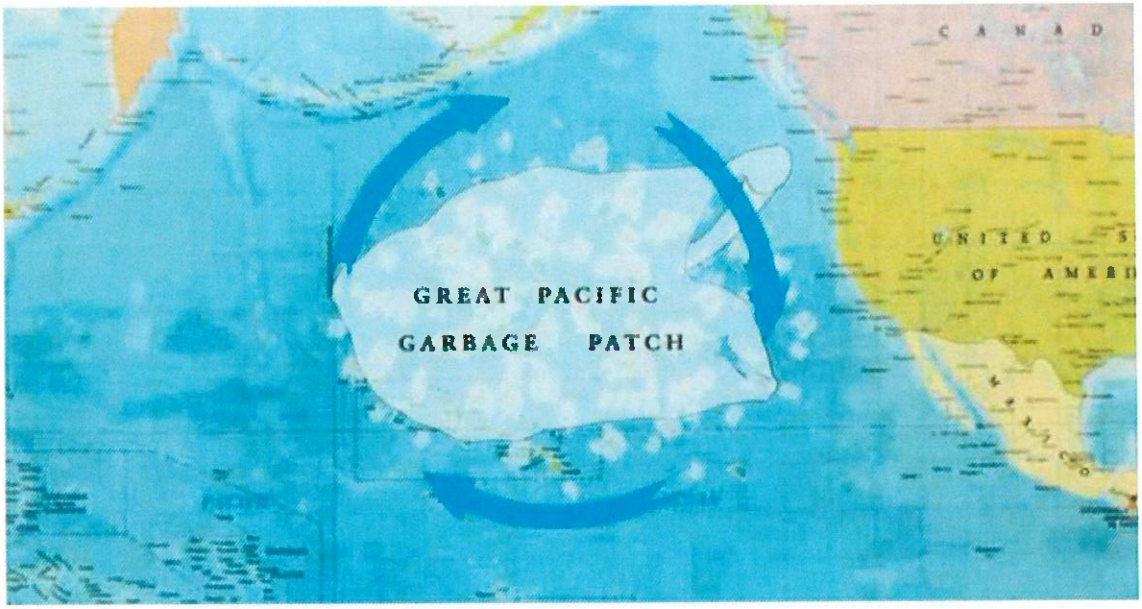

Figure: Great pacific Garbage Patch

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REDUCE

Plastic, of course, is uniquely problematic because it's non-biodegradable and therefore sticks around for a lot longer than the other forms of waste. Few small steps in day to day life would help to keep plastics a possible out of the waste stream. Some of these steps may include:

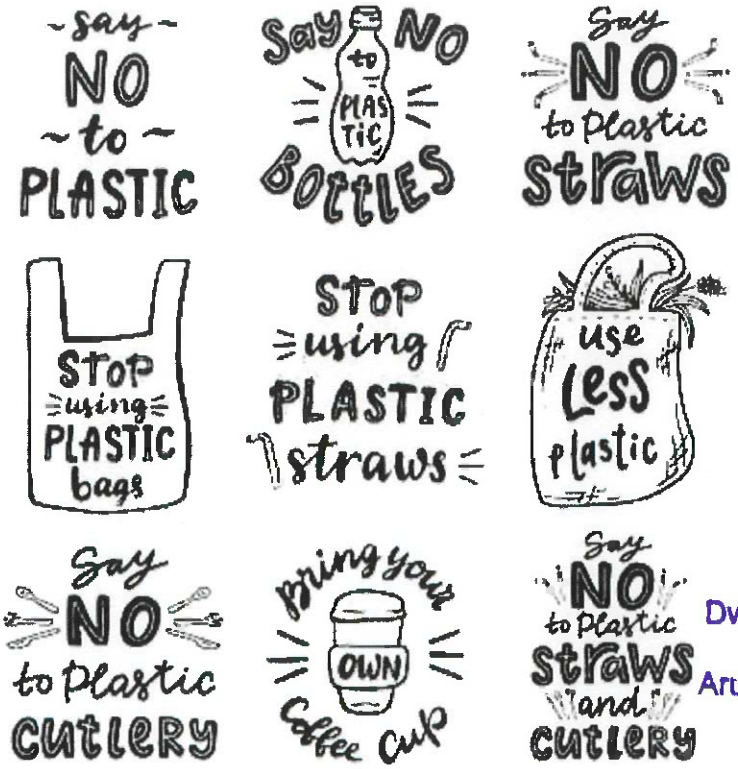
1. **Discourage the use of disposal plastics** Ninety percent of the plastic items in our daily lives are used once and then abandoned: grocery bags, plastic wrap, disposable cutlery, straws, coffee-cup lids. Take note of how often we rely on these products and replace them with reusable versions. It only takes a few times of bringing our own bags to the store, silverware to the office, or travel mug to office tea areas before it becomes habit.

2. **Minimize Buying Water** Each year, close to 20 billion plastic bottles are thrown in the trash. Making a habit of using reusable bottle in the bag, use of water from office, home and work areas where the quality of the water can be trusted.

3. **Minimize use of Plastics Cutlery** Making a habit of using metal utensils instead of plastic cutlery would help saving a lot of plastics that is thrown in thrash every year.

4. **Purchase item Second hand** The newer items comes with lot of packaging materials instead try to use second hand materials until it is very necessary

5. **Support a bag Tax or Ban** Support legislations and by laws which put taxes on ban of single use Plastics.



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OPERATION BLUE MOUNTAIN IN NILGIRIS

Operation Blue Mountain campaign was led by Supriya Sahu, the district collector in 2001 to ban the use of plastic in the district. The campaign was crucial to unclog the river sources and springs in the popular hill station of Nilgiris. The experiment has been documented by erstwhile Planning Commission and UNDP as the best practice on governance from Indian States. In order to make people understand, the campaign used pictures of choking animals. They also explained how plastic clogs drains and also seeps into the lake and other water bodies.

USES

Mini Hot Mix Plant

The stone aggregate mix (as per specification) is transferred to the mix cylinder where it is heated to 165 °C (as per the IRC specification) and then it is transferred to the mixing puddler.

The temperature can be monitored using IR thermometer, while transferring the hot aggregate into the puddler, calculated quantity of shredded plastics is sprayed over the hot aggregate within 30 seconds.

The sprayed plastic films melts and gets coated over the aggregate thus forming an oily coating. Similarly, the bitumen is to be heated to a maximum of 160 °C (HRS Specification) in a separate chamber and kept ready (The temperature should be monitored to have good binding and to prevent weak bonding). At the mixing puddler, the hot bitumen is added over the plastic coated aggregate and the resulted mix is used for road construction as shown in figure. The road laying temperature is between 110°C to 120°C. The roller used is a one with 8-ton capacity.

Central Mixing Plant (CMP)

The Central Mixing Plant technique includes three material types:

Materials I– The hoppers are filled with necessary aggregates as per the mix formula

Materials II– Plastic films (thickness not more than 60microns) to be cut to a size less than 4 X 4 mm. It should not exceed this size.

Materials III– Bitumen of type 60/70 or 80/100 to be used In Central Mixing, the stone is heated and at the same time the plastics films get melted over the heated stone and gets coated. Slowly the

plastics coated aggregate moves forward where this polymer coated aggregate mix is mixed with bitumen. Overall the process consists the following steps:

Flowchart of Plastic Bitumen Road process

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