SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Date: 13/12/2022

From
Dr. C. Aravind
Professor and Head,
Department of General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research
Chennai

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research
Chennai

Sub: Permission to conduct value-added course: BIOMEDICAL WASTE MANAGEMENT

Respected Madam,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: "Biomedical Waste Management" on 06/01/2022. We solicit your kind permission for the same.

Kind Regards

Dr. C. Aravind

Dr. C. ARAVIND, MD.,
Reg.No:68432
Professor & HOD, General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502

FOR THE USE OF DEAN'S OFFICE

Names of Committee members for evaluating the course:

The Dean: Dr. Jayalakshmi

The HOD: Dr. Aravind. C

The Expert: Dr. Chellapandian

The committee has discussed about the course and is approved.

Dean | Subject Expert | HOD

Dr. G. JAYALAKSHMI, B.Sc.,MBBS.,DTCD.,M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Ageram Kudapakkam, Post,
Villanur Commune Puducherry-605 502

DEPARTMENT OF GENERAL MEDICINE
SRI LAKSHMI NARAYANA
INSTITUTE OF MEDICAL SCIENCES
OSUDU, PUDUCHERRY

Dr. C. ARAVIND, MD.,
Reg.No:68432
Professor & HOD, General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Kudapakkam, Puducherry-605 502

Annexure- II

VALUE ADDED COURSE

Fundus Examination

4. List of Students Enrolled JAN- 2022

S:NO	Reg. No.	NAME OF THE STUDENT	SIGNATURE
1	U17MB251	AANNIE SHERLINE RAJAM.L	
2	U17MB252	AARTHISEKAR . D	
3	U17MB253	AARYA R BABU	
4	U17MB254	ABHIJITH.K	
5	U17MB255	ABHISHEIK.J	
6	U17MB256	ABHISHEK KUMAR VISHWAKARMA	
7	U17MB257	ADITYA RAI	
8	U17MB258	ADWIZA RAI	
9	U17MB259	AFZAN.M	
10	U17MB260	AGARWAL RIDHAM RAJESHBHAI	
11	U17MB261	AISWARYA.S.NAIR	
12	U17MB262	AKANKSHA CHOURASIA	
13	U17MB263	AKASH KELOTH	
14	U17MB264	ALLUVALA ABHILASH	
15	U17MB265	AMIRTHA RAJENDRA SUVETHAN D	
16	U17MB266	ANBUMANI PARYMOHAN	
17	U17MB267	ANIKET SINHA	
18	U17MB268	ANJALI GORAI	
19	U17MB269	ANJU RAJ	
20	U17MB270	ANJU RAMESH K.V.	
21	U17MB271	ANNAPOORANI.L	
22	U17MB272	ANUSUYA.N	
23	U17MB273	APOORVA MALL	
24	U17MB274	ASHISH RANJAN	
25	U17MB275	ASWIN KUMAR.G	

OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.
[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affliated to Bharath University, Chennai - TN]

Circular

20/12/2021

Sub: Organising Value-added Course: BIOMEDICAL WASTE MANAGEMENT reg

With reference to the above-mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research**, is organising a Value-added course, titled, "Biomedical Waste Management" between January 2022 and April 2022. The course content is enclosed below.

The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before 30/12/2021. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

Dr. G. JAYALAKSHMI, BSC.,MBBS.,DTCD.,M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Ageram Kudapakkam, Post,
Villanur Commune Puducherry-605 502.

Encl: Copy of Course content

COURSE PROPOSAL

Course Title: **Biomedical Waste Management**

Course Objective: To create an awareness among students of the Second year M.B.B.S about Biomedical Waste Management

Course Outcome: The students completed the course and were made aware of the importance of Biomedical waste management- on the necessity for effective disposal and treatment strategies

Course Audience: A batch of 25 students belonging to the second year of M.B.B.S

Course Coordinator: **Dr. Aravind. C**

Course Faculties with Qualification and Designation:

1. Dr. Chellapandian
   Professor
   Department of General Medicine
2. Dr. Muthukumarasamy. B
   Professor
   Department of General Medicine
3. Dr. Arul Murugan
   Associate Professor
   Department of General Medicine

Course Curriculum/Topics with schedule

SlNo	Date	Topic	Time	Hours	Name of the faculty
1.	06/01/2022	What is Biomedical Waste?	5 pm to 7 pm	2 hours	Dr. Arul Murugan
2.	09/01/2022	Classification of Biomedical waste	4: 30 pm to 6: 30 pm	2 hours	Dr. Muthukumarasamy. B
3.	13/01/2022	Sources of Biomedical Waste	5 pm to 7 pm	2 hours	Dr. Arul Murugan
4.	16/01/2022	Why is BWM important?	5 pm to 7 pm	2 hours	Dr. Chellapandian
5.	20/01/2022	Processing Biomedical waste management	5 pm to 7 pm	2 hours	Dr. Arul Murugan
6.	27/01/2022	Separation of	4: 30 pm to 6: 30	2 hours	Dr. Arul Murugan

		Biomedical Waste	pm		
7.	03/02/2022	Treatment of Biomedical waste	5 pm to 7 pm	2 hours	Dr. Muthukumarasamy. B
8.	06/02/2022	Biomedical waste disposal	5 pm to 7 pm	2 hours	Dr. Muthukumarasamy. B
9.	10/02/2022	Why hospitals need BWM	4 pm to 6 pm	2 hours	Dr. Chellapandian
10.	13/02/2022	Rules on Biomedical waste management	4 pm to 6 pm	2 hours	Dr. Arul Murugan
11.	20/02/2022	Schedule I of BWM	4 pm to 6 pm	2 hours	Dr. Arul Murugan
12.	24/02/2022	Schedule II of BWM	4 pm to 6 pm	2 hours	Dr. Chellapandian
13.	03/03/2022	Schedule III of BWM	4 pm to 6 pm	2 hours	Dr. Muthukumarasamy. B
14.	24/03/2022	Schedule IV and V of BWM	4 pm to 6 pm	2 hours	Dr. Chellapandian
15.	07/04/2022	Schedule VI of BWM	4 pm to 6 pm	2 hours	Dr. Muthukumarasamy. B
			Total Hours	30	

REFERENCE BOOKS:

1. **HARRISON'S PRINCIPLES OF INTERNAL MEDICINE; 18th EDITION**
2. **BIOMEDICAL WASTE MANAGEMENT, Anantpreet Singh**

VALUE ADDED COURSE

1. Name of the programme and code

   Biomedical waste management; IM05

2. Duration & period

   30 hrs; January 2022 – April 2022

3. Information Brochure and course content of value-added courses

   Enclosed as Annexure – I

4. List of students enrolled

   Enclosed as Annexure – II

5. Assessment procedures:

   Short notes – Enclosed as Annexure – III

6. Certificate model

   Enclosed as Annexure – IV

7. No. of times offered during the same year

   1; January 2022 – April 2022

8. Year of discontinuation

   2022

9. Summary report of each program year wise:

VALUE ADDED COURSE: January 2022 – April 2022					
Sl. No.	Course code	Course name	Resource persons	Target Students	Strength and year
1	IM05	Biomedical waste management	Dr. Chellapandian Dr. Muthukumarasamy. B Dr. Arul Murugan	Second year MBBS	25 (January 2022 – April 2022)

10. Course feedback

    Enclosed as Annexure - V

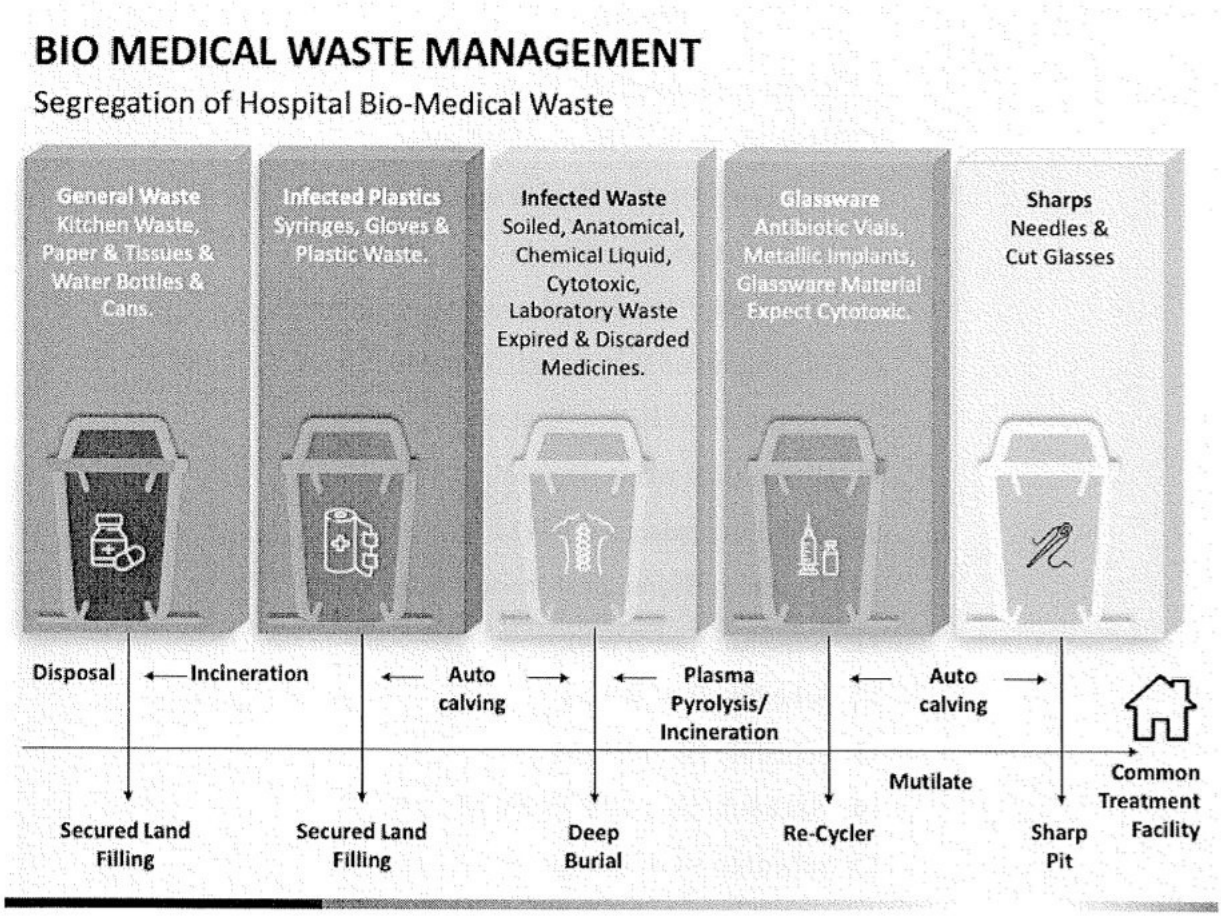
RESOURCE PERSON – Dr. Chellapandian

COORDINATOR - Dr. C. Aravind

C. ARAVIND, MD.,
Reg. No: 66432
Professor & HOD, General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Kudapakkam, Puducherry-605 502.

ANNEXURE – 1

PARTICIPANT HANDBOOK



BIOMEDICAL WASTE MANAGEMENT

COURSE DETAILS

PARTICULARS	DESCRIPTION
Course title	BIOMEDICAL WASTE MANAGEMENT
Course code	IM05
Objective	1. What is Biomedical Waste? 2. Classification of Biomedical waste 3. Sources of Biomedical Waste 4. Why is BWM important? 5. Processing Biomedical waste management 6. Separation of Biomedical Waste 7. Treatment of Biomedical waste 8. Biomedical waste disposal 9. Why hospitals need BWM 10. Rules on Biomedical waste management 11. Schedule I of BWM 12. Schedule II of BWM 13. Schedule III of BWM 14. Schedule IV and V of BWM 15. Schedule VI of BWM
Key competencies	On successful completion of the course, the students will have a better knowledge about Biomedical Waste Management
Target students	Second year MBBS
Duration	30 hours; between January 2022 and April 2022
Assessment procedure	Short notes

BIOMEDICAL WASTE MANAGEMENT

Since beginning, the hospitals are known for the treatment of sick persons but we are unaware about the adverse effects of the garbage and filth generated by them on human body and environment. Now it is a well-established fact that hospital waste is a potential health hazard to the health care workers, public and flora and fauna of the area.

The act was passed by the Ministry of Environment and Forests in 1986 & notified the Bio Medical Waste (Management and Handling) Rules in July 1998. In accordance with these rules, it is the duty of every "occupier" i.e., a person who has the control over the institution or its premises, to take all steps to ensure that waste generated is handled without any adverse effect to human health and environment.

1.Hospital waste refers to all waste, biological or non- biological that is discarded and not intended for further use.

2. Bio-medical waste means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals, and including categories mentioned in Schedule I.

3. Infectious waste: The wastes which contain pathogens in sufficient concentration or quantity that could cause diseases. It is hazardous e.g. culture and stocks of infectious agents from laboratories, waste from surgery, waste originating from infectious patients.

Medical care is vital for our life and health, but the waste generated from medical activities represents a real problem of living nature and human world. Improper management of waste generated in health care facilities causes a direct health impact on the community, the health care workers and on the environment Every day, relatively large amount of potentially infectious and hazardous waste are generated in the health care hospitals and facilities around the world. Indiscriminate disposal of BMW or hospital waste and exposure to such waste possess serious threat to environment and to human health that requires specific treatment and management prior to its final disposal.

Biomedical waste management has recently emerged as an issue of major concern not only to hospitals, nursing home authorities but also to the environment. the bio-medical wastes generated from health care units depend upon a number of factors such as waste management

methods, type of health care units, occupancy of healthcare units, specialization of healthcare units, ratio of reusable items in use, availability of infrastructure and resources etc.

INTRODUCTION

The proper management of biomedical waste has become a worldwide humanitarian topic today. Although hazards of poor management of biomedical waste have aroused the concern world over, especially in the light of its far-reaching effects on human, health and the environment.

Now it is a well- established fact that there are many adverse and harmful effects to the environment including human beings which are caused by the "Hospital waste" generated during the patient care. Hospital waste is a potential health hazard to the health care workers, public and flora and fauna of the area. The problems of the waste disposal in the hospitals and other health-care institutions have become issues of increasing concern.

DEFINITION:

According to Biomedical Waste (Management and Handling) Rules, 1998 of India "Any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals.

The Government of India (notification, 1998) specifies that Hospital Waste Management is a part of hospital hygiene and maintenance activities. This involves management of range of activities, which are mainly engineering functions, such as collection, transportation, operation or treatment of processing systems, and disposal of wastes.

One of India's major achievements has been to change the attitudes of the operators of health care facilities to incorporate good HCW management practices in their daily operations and to purchase on-site waste management services from the private sector.

World Health Organization states that 85% of hospital wastes are actually non-hazardous, whereas 10% are infectious and 5% are non-infectious but they are included in hazardous wastes. About 15% to 35% of Hospital waste is regulated as infectious waste. This range is dependent on the total amount of waste generated.

CLASSIFICATION OF BIO-MEDICAL WASTE

The World Health Organization (WHO) has classified medical waste into eight categories:

- General Waste
- Pathological
- Radioactive
- Chemical
- Infectious to potentially infectious waste
- Sharps
- Pharmaceuticals
- Pressurized containers

SOURCES OF BIOMEDICAL WASTE

Hospitals produce waste, which is increasing over the years in its amount and type. The hospital waste, in addition to the risk for patients and personnel who handle them also poses a threat to public health and environment.

MAJOR SOURCES

- ✓ Govt. hospitals/private hospitals/nursing homes/ dispensaries.
- ✓ Primary health centers.
- ✓ Medical colleges and research centers/ paramedic services.
- ✓ Veterinary colleges and animal research centers.
- ✓ Blood banks/mortuaries/autopsy centers.
- ✓ Biotechnology institutions.
- ✓ Production units.

MINOR SOURCES

- ✓ Physicians/ dentists' clinics
- ✓ Animal houses/slaughter houses.
- ✓ Blood donation camps.
- ✓ Vaccination centers.
- ✓ Acupuncturists/psychiatric clinics/cosmetic piercing.
- ✓ Funeral services.
- ✓ Institutions for disabled persons

PROBLEMS RELATING TO BIOMEDICAL WASTE

A major issue related to current Bio-Medical waste management in many hospitals is that the implementation of Bio-Waste regulation is unsatisfactory as some hospitals are disposing of waste in a haphazard, improper and indiscriminate manner. Lack of segregation practices, results in mixing of hospital wastes with general waste making the whole waste stream hazardous. Inappropriate segregation ultimately results in an incorrect method of waste disposal.

Inadequate Bio-Medical waste management thus will cause environmental pollution, unpleasant smell, growth and multiplication of vectors like insects, rodents and worms and may lead to the transmission of diseases like typhoid, cholera, hepatitis and AIDS through injuries from syringes and needles contaminated with human.

Various communicable diseases, which spread through water, sweat, blood, body fluids and contaminated organs, are important to be prevented. The Bio Medical Waste scattered in and around the hospitals invites flies, insects, rodents, cats and dogs that are responsible for the spread of communication disease like plague and rabies. Rag pickers in the hospital, sorting out the garbage are at a risk of getting tetanus and HIV infections. The recycling of disposable syringes, needles, IV sets and other article like glass bottles without proper sterilization are responsible for Hepatitis, HIV, and other viral diseases. It becomes primary responsibility of Health administrators to manage hospital waste in most safe and eco-friendly manner.

The problem of bio-medical waste disposal in the hospitals and other healthcare establishments has become an issue of increasing concern, prompting hospital administration to seek new ways of scientific, safe and cost effective management of the waste, and keeping their personnel informed about the advances in this area. The need of proper hospital waste management system is of prime importance and is an essential component of quality assurance in hospitals.

NEED OF BIOMEDICAL WASTE MANAGEMENT IN HOSPITALS

The reasons due to which there is great need of management of hospitals waste such as:

- ✓ Injuries from sharps leading to infection to all categories of hospital personnel and waste handler.
- ✓ nosocomial infections in patients from poor infection control practices and poor waste management.
- ✓ Risk of infection outside hospital for waste handlers and scavengers and at time general public living in the vicinity of hospitals.
- ✓ Risk associated with hazardous chemicals, drugs to persons handling wastes at all levels.
- ✓ "Disposable" being repacked and sold by unscrupulous elements without even being washed.
- ✓ Drugs which have been disposed of, being repacked and sold off to unsuspecting buyers.
- ✓ Risk of air, water and soil pollution directly due to waste, or due to defective incineration emissions and ash.

BIOMEDICAL WASTE MANAGEMENT PROCESS

There is a big network of Health Care Institutions in India. The hospital waste like body parts, organs, tissues, blood and body fluids along with soiled linen, cotton, bandage and plaster casts from infected and contaminated areas are very essential to be properly collected, segregated, stored, transported, treated and disposed of in safe manner to prevent nosocomial or hospital acquired infection.

- Waste collection

- Segregation
- Transportation and storage
- Treatment & Disposal
- Transport to final disposal site
- Final disposal

BIOMEDICAL WASTE TREATMENT AND DISPOSAL

Health care waste is a heterogeneous mixture, which is very difficult to manage as such. But the problem can be simplified and its dimension reduced considerably if a proper management system is planned.

1. Incineration Technology

This is a high temperature thermal process employing combustion of the waste under controlled condition for converting them into inert material and gases. Incinerators can be oil fired or electrically powered or a combination thereof. Broadly, three types of incinerators are used for hospital waste: multiple hearth type, rotary kiln and controlled air types. All the types can have primary and secondary combustion chambers to ensure optimal combustion. These are refractory lined.

2. Non-Incineration Technology

Non-incineration treatment includes four basic processes: thermal, chemical, irradiative, and biological. The majority of non-incineration technologies employ the thermal and chemical processes. The main purpose of the treatment technology is to decontaminate waste by destroying pathogens. Facilities should make certain that the technology could meet state criteria for disinfection.

3. Autoclaving

- The autoclave operates on the principle of the standard pressure cooker.
- The process involves using steam at high temperatures.
- The steam generated at high temperature penetrates waste material and kills all the microorganisms.

- These are also of three types: Gravity type, Pre-vacuum type and Retort type.

In the first type (Gravity type), air is evacuated with the help of gravity alone. The system operates with temperature of 121 deg. C. and steam pressure of15 psi. for 60-90 minutes. Vacuum pumps are used to evacuate air from the Pre vacuum autoclave system so that the time cycle is reduced to 30-60 minutes. It operates at about 132 deg. C. Retort type autoclaves are designed much higher steam temperature and pressure. Autoclave treatment has been recommended for microbiology and biotechnology waste, waste sharps, soiled and solid wastes. This technology renders certain categories (mentioned in the rules) of bio-medical waste innocuous and unrecognizable so that the treated residue can be land filled.8

4. Microwave Irradiation

- The microwave is based on the principle of generation of high frequency waves.
- These waves cause the particles within the waste material to vibrate, generating heat.
- This heat generated from within kills all pathogens.

5. Chemical Methods

- 1 % hypochlorite solution can be used for chemical disinfection

6. Plasma Pyrolysis

Plasma pyrolysis is a state-of-the-art technology for safe disposal of medical waste. It is an environment-friendly technology, which converts organic waste into commercially useful byproducts. The intense heat generated by the plasma enables it to dispose all types of waste including municipal solid waste, biomedical waste and hazardous waste in a safe and reliable manner. Medical waste is pyrolysed into CO, H2, and hydrocarbons when it comes in contact with the plasma-arc. These gases are burned and produce a high temperature (around 1200°C).

BIOMEDICAL WASTE MANAGEMENT RULES

Safe disposal of biomedical waste is now a legal requirement in India. The Biomedical Waste Management & Handling) Rules, 1998 came into force on 1998. In accordance with these rules, it is the duty of every "occupier" i.e. a person who has the control over the institution or its premises, to take all steps to ensure that waste generated is handled without any adverse effect to human health and environment. It consists of six schedules.

1. Schedule I
2. Schedule II
3. Schedule III
4. Schedule IV
5. Schedule V
6. Schedule VI

CONCLUSION

Medical wastes should be classified according to their source, typology and risk factors associated with their handling, storage and ultimate disposal. The segregation of waste at source is the key step and reduction, reuse and recycling should be considered in proper perspectives. We need to consider innovative and radical measures to clean up the distressing picture of lack of civic concern on the part of hospitals and slackness in government implementation of bare minimum of rules, as waste generation particularly biomedical waste imposes increasing direct and indirect costs on society. The challenge before us, therefore, is to scientifically manage growing quantities of biomedical waste that go beyond past practices. If we want to protect our environment and health of community we must sensitize ourselves to this important issue not only in the interest of health managers but also in the interest of community.

Annexure II

Bharath Institute of Higher Education and Research

Sri Lakshmi Narayana Institute of Medical Sciences

Participant list with signatures

Value added course: **BIOMEDICAL WASTE MANAGEMENT (dated 06/01/2022)**

Sl.No	Reg.No	Name of the candidate	Signature
1.	U13MB220	NIRANJANA. B.	
2.	U13MB221	NIVEDHINI. B.S.	
3.	U13MB222	NIVEDHITHA.N.	
4.	U13MB223	PADMAPRIYA. S.	
5.	U13MB224	PANDIYAN.S.	
6.	U13MB225	PARVEEN.A.	
7.	U13MB226	PORKODI.S.	
8.	U13MB227	PRATAB.J.	
9.	U13MB4228	PRAVEEN KUMAR.M.C	
10.	U13MB229	PRAVEEN KUMAR.R.	
11.	U13MB230	PRAVEEN KUMAR.S	
12.	U13MB231	PRAVEEN.S	
13.	U13MB232	PRAVEENA.M.F.M.	
14.	U13MB233	PRITHIVIRAJ.S.	
15.	U13MB235	PRIYA NEVAN ARNAOLD.A.	
16.	U13MB234	PRIYADHARSHNI.R.	
17.	U13MB236	PRIYANGA.K.	
18.	U13MB237	RAHUL.B.	
19.	U13MB238	RAHUL.K.	

20.	U13MB239	RAJA JOTHI.B.	
21.	U13MB240	RAJALAKSHMI @ VEDA.S.	
22.	U13MB242	RAJESH. V.	
23.	U13MB241	RAJESH.A.	
24.	U13MB243	RAJKIRAN.M.	
25.	U13MB244	RAMKUMAR.P.	

ANNEXURE III

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

BIOMEDICAL WASTE MANAGEMENT

SHORT NOTES

Course Code: IM05

WRITE SHORT NOTES ON THE FOLLOWING:

1. What are biomedical wastes?
2. How are the biomedical wastes in hospital segregated?
3. How do you treat and dispose the various categories of biomedical wastes?

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Annexure - III

BIOMEDICAL WASTE MANAGEMENT

SHORT NOTES

Student Name: Pandiyan S

Course Code: IM05

WRITE SHORT NOTES ON THE FOLLOWING:

1. What are biomedical wastes?
2. How are the biomedical wastes in hospital segregated?
3. How do you treat and dispose the various categories of biomedical wastes?

(1) Any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biological.

(2)
green - general waste
Red - Infected plastics
Yellow - Infected waste.
blue - glassware.
White - sharps

(3) Yellow - Infectious waste.
Bandages
gauze
cotton
Placenta.
Body fluids.

Red - Plastic
catheters
Syringe.
Tubings
IV bottles.

Blue:
bottles.
broken glass.
discarded medicines.

Black:
Discarded medicines
cytotoxic drugs
Incineration ash.
Chemical waste.

SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Annexure - III

BIOMEDICAL WASTE MANAGEMENT

SHORT NOTES

Student Name : RAHUL . B

Course Code: IM05

WRITE SHORT NOTES ON THE FOLLOWING:

1. What are biomedical wastes?
2. How are the biomedical wastes in hospital segregated?
3. How do you treat and dispose the various categories of biomedical wastes?

8 1/2

10

Dr. MUTHUKUMARASA - M.Y.B

1) Bio medical wastes are any kind of wastes containing infectid material . It may also include waste generated with biomedical waste

2) Green - general waste , kitchen waste , Paper and tissue water bottle and cans

Red - Infected plastics , Syringes , gloves , plastic waste

Yellow - infected wastes, chemical liquids , cytotoxic laboratory waste , Expired & Discarded medicine

Blue - Glassware :- Antibiotic vials , metallic implants Glassware material Except cytotoxic

transparent - Sharps . needles , glasses

3) incineration
Autoclave
Mechanical / chemical Disinfection
Microwaves
Irradiation
Vitrification
and disposal

ANNEXURE - IV

Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research
(Deemed to be University under section 3 of the UGC Act 1956)

CERTIFICATE OF MERIT

This is to certify that PANDIYAN.S has actively participated in the Value Added Course on Biomedical Waste Management conducted between January 2022 – April 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. Chellapandian
RESOURCE PERSON

Dr. C. Aravind
COORDINATOR

Professor & HOD, General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Puducherry-605 502.

ANNEXURE IV

Sri Lakshmi Narayana Institute of Medical Sciences

CERTIFICATE OF MERIT

This is to certify that NIRANJANA. B. has actively participated in the Value Added Course on Biomedical Waste Management conducted between January 2022 and April 2022, organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

Dr. Chellapandian
RESOURCE PERSON

Dr. C. Aravind
COORDINATOR

ANNEXURE - V

Student Feedback Form

Course Name: **BIOMEDICAL WASTE MANAGEMENT**

Subject Code: **IM05**

Name of Student: Ramkumar P Roll No.: 0IBMB244

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear				✓	
2	Course contents met with your expectations				✓	
3	Lecturer sequence was well planned				✓	
4	Lectures were clear and easy to understand					✓
5	Teaching aids were effective					✓
6	Instructors encourage interaction and were helpful				✓	
7	The level of the course					✓
8	Overall rating of the course	1	2	3	4	5

**** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory***

Suggestions if any:

Date: 7/4/2022

Signature

ANNEXURE - V

Student Feedback Form

Course Name: **BIOMEDICAL WASTE MANAGEMENT**

Subject Code: **IM05**

Name of Student: Rajesh - A Roll No.: U13MB241

We are constantly looking to improve our classes and deliver the best training to you. Your evaluations, comments and suggestions will help us to improve our performance

Sl. NO	Particulars	1	2	3	4	5
1	Objective of the course is clear				✓	
2	Course contents met with your expectations				✓	
3	Lecturer sequence was well planned				✓	
4	Lectures were clear and easy to understand					✓
5	Teaching aids were effective				✓	
6	Instructors encourage interaction and were helpful					✓
7	The level of the course					✓
8	Overall rating of the course	1	2	3	4	5

**** Rating: 5 – Outstanding; 4 - Excellent; 3 – Good; 2– Satisfactory; 1 - Not-Satisfactory***

Suggestions if any:

Signature

Date: 7/4/2022

Date: 10/04/2022

From,
Dr. C. Aravind
Department of General Medicine
Sri Lakshmi Narayana Institute of Medical Sciences
Puducherry
Bharath Institute of Higher Education and Research
Chennai

To
The Dean,
Sri Lakshmi Narayana Institute of Medical Sciences
Bharath Institute of Higher Education and Research
Chennai

Sub: Completion of value-added course: Biomedical Waste Management

Respected Madam,

With reference to the subject mentioned above, the department has conducted the value-added course titled: **"Biomedical Waste Management"** on 07/04/2022. We solicit your kind action to send certificates for the participants. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

Dr. C. Aravind

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Encl: Photographs