NITTE (Deemed to be University) | NMAM INSTITUTE OF TECHNOLOGY

BIOLOGY FOR ENGINEERS (BT1651-1)
UNIT 3-QUESTION BANK (Topic 11-13)

Q. N	Topic 11: Recent Scenarios in Environment	Option A (Correct Ans)	Option B	Option C	Option D
1.	Name of the first biodegradable leather is	Desserto	Adriano Di Marti	Bionic	Exhale
2.	The first biodegradable leather was developed in	Mexico	USA	Canada	Brazil
3.	The company which patented and manufacturing first biodegradable leather	Adriano Di Marti	Desserto	Lakhaani - Arman	Prickly pear
4.	The cactus from which leather is manufactured is also known as	Prickly pear	Breathing Leaf	Arborea	Indian Cactus
5.	What motivated the inventors to design the biodegradable leather?	Environmental Pollution	Large land requirement for leather industry	Surplus production of Cactus	Lot of aerable land available
6.	Whether biodegradable leather be used in fabric manufacturing?	Yes, without any modification	Yes, but chemical treatment is necessary	Only limited fabrics can be designed	No, it cannot be used
7.	The carbon sequestering capacity of Cactus used for leather: Absorbs about 8000 tons per year of CO2, whereas it produces CO2 at the rate of:	15 tons per year	5000 tons per year	8000 tons per year	15300 tons per year
8.	To produce 1 linear metre of biodegradable leather, how many fully grown cactus leaves are required?	3	1	30	10
9.	To manufacture leather from Cactus, full Cactus plant need to be harvested.	No, only fully grown leaves are removed leaving the plant intact with young leaves	No, all the leaves are removed but plant without leaves is left	Yes, full plant is removed but the small cutting from old plant is cultivated again	Yes, plant is completely harvested and new plants are cultivated again each year.

10.	Which of these is TRUE for the biodegradable leather?	There is No Water pollution with Chromium salts	Consumes lot of water for processing	Consumes lot of energy for drying of cactus powder	Emits more carbon to environment
11.	The life cycle analysis of different types of leather manufacturing indicates:	Biodegradable leather is more sustainable	Animal leather requries lesser energy and more efficient	PU leather is more sturdy and better than all other leathers	Leather types cannot be compared using LCA
12.	GHG Carbon emission in which of the following manufacturing process is Lowest?	Desserto Leather	PU Leather	Animal Leather	Artificial Leather
13.	What is the name of bionic chandelier designed by Julian Melchiorri?	Exhale	Inhale	Arborea	Breathing leaf
14.	What does the bionic chandelier do?	Purifies the indoor air by producing oxygen	Produces natural glowing light	Decreases moisture content of air	Decreases intensity of light
15.	In the bionic chandelier designed by Julian, how many leaves are there?	70	numerous	3	24
16.	What does the bionic chandelier contain?	Photosynthetic algae	Artificial air purifier	Light emitting flourospores	It is just a metallic structure with varying green shades
17.	Why the bionic chandelier is connected to a life support device?	To provide nutrient to algae	To remove the odor captured by air purifier	To replenish the concentration of flourospores	There is no such unit attached to bionic chandelier
18.	Bionic chandelier establishes which new type of symbiotic relationship between	Object and Human	Object and Environment	Algae and Light	Human and Environment
19.	Which byproduct of the oil refinery is used for making of roads?	Bitumen	Asphalt	Coal	Kerosene
20.	Bitumen in the asphalt act as a	Binder material	Base material	Coloring material	Bitumen is not a part of asphalt
21.	Identify the correct order of waste plastic processing before it is used in road construction along with asphalt.	Clean - Dry - Shred - Melt	Dry - Shred - Clean - Melt	Clean - Melt - Dry - Shred	Melt - Dry - Clean - Shred
22.	Which of the following is NOT TRUE about Dr. Rajagopalan Vasudevan.				
23.	Which of these is the natural alternative to Bitumen as per current findings?	Lignin	Cactus powder	PET or PP or HDPE	Binder Enzymes

24.	Which process is currently demonstrated to use Lignin as binding agent in road construction?	Pyrolysis	Photosynthesis	Metabolism	Hydrolysis
25.	whether natural lignin is currently demonstrated as a complete replacement for Bitumen?	No, 50-50 mix of Lignin and Bitumen is demonstrated	Yes, 100% replacement has been demonstrated	No, about 10% of Bitumen can be replaced.	No, lignin is not a suitable alternative to bitumen.

Q. N	Topic 12: Recent Scenarios in Agriculture	Option A (Correct Ans)	Option B	Option C	Option D
26.	The Solar powered pest control system was developed at	IIT Kharagpur	IIT Kanpur	IIT Madras	Thyagarajar College of Engg
27.	In solar powered pest control system, what device is used to pressurize the liquid to be dispersed?	DC Motor	AC Motor	Solar Panel	Nozzles
28.	How larger width of spray area is achieved in solar powered pest control system?	Use of multiple nozzles on boom	Use of multiple DC motors	Use of large solar panels	Use of low viscosity pesticides
29.	The administrator of solar pest control unit is required to	Monitor the spray module movement	Carry the pesticide backpack	Spray the pesticide using nozzle module	Need not be present at the field
30.	Development of indigenous solar pest control system comes under which type of Govt of India initiative?	Atmanirbhar Bharat Abhiyan	Skill India	Pradhan Mantri Jan Dhan Yojana	Stand Up India Scheme
31.	Novel BioDCM nanoparticle based pesticide can protect agricultural crops from the infection of	Both bacterial & fungal	Bacterial only	Fungal only	None
32.	The major or leading institutes that developed BioDCM nanoparticles based pesticide	IIT Kanpur	IIT Kharagpur	IIT Madras	IIT Bombay
33.	The fullform of the pesticide BioDCM	Bio-Degradable-Carbonoid-Metabolite	Bio-Degradable-Carbon-Metal complex	Biologically Designed Commercial Metabolite	Biologically Designed Chemical Molecule
34.	The pesticide BioDCM is extracted from	*Trichoderma asperellum*	*Xanthomonas oryzae*	*Bacillus anthracis*	*Arabidopsis thaliana*
35.	The pesticide BioDCM is extracted from which of these?	Fungal strain	Bacterial strain	Virus	Chemically synthesized
36.	*Trichoderma asperellum* is a	Common soil fungus	Common soil bacterium	Viral agent	Crop variety
37.	If you need to measure water potential in crop leaves using their turgor pressure, then which of these sensors are more useful?	Mechanical sensors	Accoustic sensors	Optical sensors	Chemical sensors
38.	If you require Geometric structure of plant which is sensor is more useful?	Accoustic sensors	Mechanical sensors	Optical sensors	Chemical sensors

39.	Which of these sensors use their own light for measurement?	Active optical sensor	Passive optical sensor	Accoustic sensors	Mechanical sensors
40.	Which of these sensors are useful to measure nitrogen content in crops?	Optical sensors	Chemical sensors	Mechanical sensors	Accoustic sensors

Q. N	Topic 13: Recent Scenarios in Medical Technology	Option A (Correct Ans)	Option B	Option C	Option D
41.	A device that provides “real-time” glucose readings and data about trends in glucose levels	Continuous Glucose Monitor	Canadian Glucose Machine	Glucometer	Diabetescare
42.	Why one should use GSM	To Monitor Blood Glucose level	To monitor Genetic Syndrom	To inject Insulin	To assess blood cholesterol level
43.	Sensor life of Freestyle Navigator is	5 days	6 days	10 days	8 days
44.	DexCom 7 Plus needs caliberation	every 12 hours	every 12 days	every 15days	every 15 hours
45.	In 1985 a ROBOT, the PUMA 560, was used to place a needle for a _____ biopsy using CT guidance.	Brain	Heart	Lung	Skin
46.	Robots were first introduced in _____ with the first laparoscopic surgery.	1987	1897	1988	2001
47.	Robotic surgery means	Microsurgery in which the surgeon performs surgery by manipulating the hands of a robot	Surgery done by Robot with programmed software	Microsurgery done remotely without any physical presence	Surgery done for Robots in micro level
48.	Retractor system present in _____ type of Robot	Passive	Active	Both Passive and Active	Manual
49.	One of the following is name of a Robot used in Medical Technology	PUMA 560	ROMA 560	DOLLY 650	ROBO 110
50.	DexCom 7 Plus is a	CGM available in the Market	Robot used in Brain surgery	Monitoring system for heart beat	Computer software for Medical technology

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