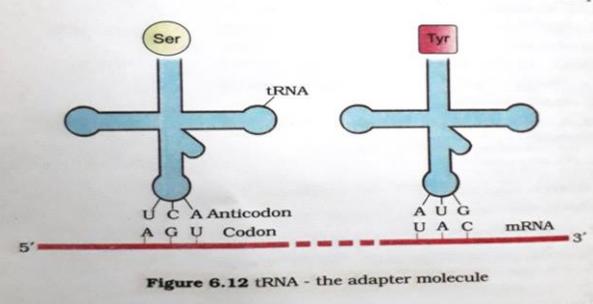
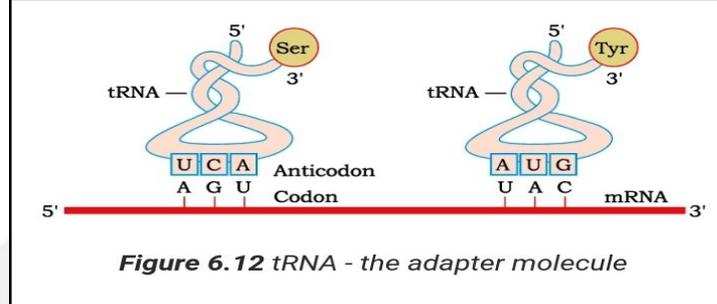
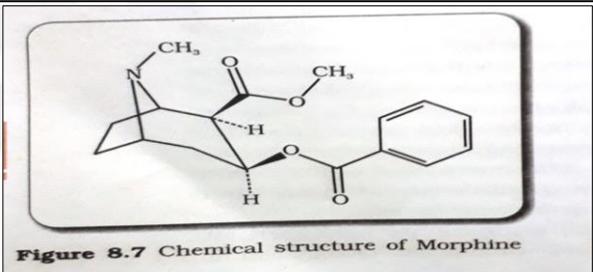
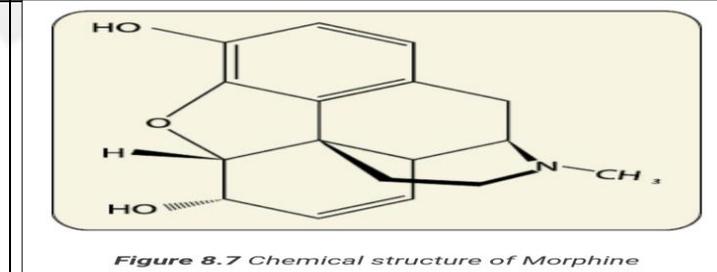
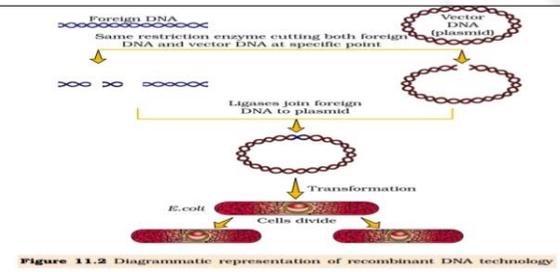
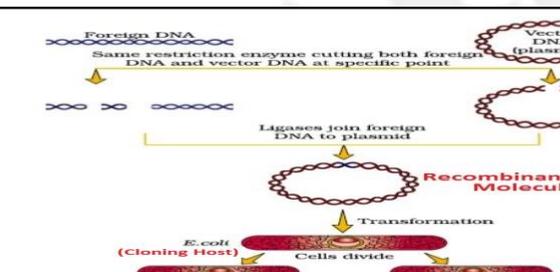


NCERT UPDATE XII

Sno.	Page No.	Topic	Previous Content	Content Added	Updated Content
1	16	1.Reproduction in Organism	Budding and gemmule formation are the common asexual methods seen in animals.		Budding and gemmule formation are the common asexual methods seen in lower animals.
2	51	3.Human Reproduction		Menstrual Hygiene Maintenance of hygiene and sanitation during menstruation is very important. Take bath and clean yourself regularly. Use sanitary napkins or clean homemade pads. Change sanitary napkins or homemade pads after every 4-5 hrs as per the requirement. Dispose of the used sanitary napkins properly wrapping it with a used paper. Do not throw the used napkins in the drainpipe of toilets or in the open area. After handling the napkin wash hands with soap.	
3	58	4.Reproductive Health	Statutory ban on amniocentesis (a foetal sex determination test based on the chromosomal pattern in the amniotic fluid surrounding the developing embryo) for sex-determination to legally check increasing female foeticides, massive child immunisation, etc., are some programmes that merit mention in this connection.		Statutory ban on amniocentesis for sex-determination to legally check increasing menace female foeticides, massive child immunisation, etc., are some programmes that merit mention in this connection. In aminocentesis some of the amniotic fluid of the developing foetus is taken to analyse the fetal cells and dissolved substances. This procedure is used to test for the presence of certain genetic disorders such as, down syndrome, haemophilia, sickle-cell anemia, etc., determine the survivability of the foetus.
4	59	4.Reproductive Health	The world population which was around 2 billion (2000 million) in 1900 rocketed to about 6 billion by 2000.		The world population which was around 2 billion (2000 million) in 1900 rocketed to about 6 billion by 2000 and 7.2 billion in 2011.
5	59	4.Reproductive Health	Our population which was approximately 350 million at the time of our independence reached close to the billion mark by 2000 and crossed 1 billion in May 2000.		Our population which was approximately 350 million at the time of our independence reached close to the billion mark by 2000 and crossed 1.2 billion in May 2011.
6	59	4.Reproductive Health	According to the 2001 census report, the population growth rate was still around 1.7 percent, i.e. 17/1000/year, a rate at which our population could double in 33 years.		According to the 2011 census report, the population growth rate was less than 2 percent, i.e. 20/1000/year, a rate at which our population could increase rapidly.
7	62	4.Reproductive Health		The Medical Termination of Pregnancy (Amendment) Act, 2017 was enacted by the government of India with the intension of reducing the incidence of illegal abortion and consequent maternal mortality and morbidity. According to this Act, a pregnancy may be terminated on certain considered grounds within the first 12 weeks of pregnancy on the opinion of one registered medical practitioner. If the pregnancy has lasted more than 12 weeks, but fewer than 24 weeks, two registered medical practitioners must be of the opinion, formed in good faith, that the required ground exist. The grounds for such termination of pregnancies are : (i) The continuation of the pregnancy would involve a risk to the life of the pregnant woman or of grave injury physical or mental health : or (ii) There is a substantial risk that of the child were born, it would suffer from such physical or mental abnormalities as to be seriously handicapped.	
8	63	4.Reproductive Health	Sexually Transmitted Diseases (STDs) Diseases or infections which are transmitted through sexual intercourse are collectively called sexually transmitted diseases (STD) or venereal diseases (VD) or reproductive tract infections (RTI). Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B and of course , the most discussed infection in the recent years, HIV leading to AIDS are some of the common STDs.		Sexually Transmitted Infections (STIs) Diseases or infections which are transmitted through sexual intercourse are collectively called sexually transmitted Infections (STI) or venereal diseases (VD) or reproductive tract infections (RTI). Gonorrhoea, syphilis, genital herpes, chlamydia, genital warts, trichomoniasis, hepatitis-B and of course , the most discussed infection in the recent years, HIV leading to AIDS are some of the common STIs.
9	96	6.Molecular Basis of Inheritance	A nitrogenous base is linked to the pentose sugar through a N-glycosidic linkage to form a nucleoside		A nitrogenous base is linked to the OH of 1'C pentose sugar through a N-glycosidic linkage to form a nucleoside

Sno.	Page No.	Topic	Previous Content	Content Added	Updated Content
10	96	6.Molecular Basis of Inheritance	When a phosphate group is linked to 5' -OH of a nucleoside through phosphoester linkage,		When a phosphate group is linked to OH of 5'C of a nucleoside through phosphoester linkage,
11	97	6.Molecular Basis of Inheritance	Similarly, at the other end of the polymer the ribose has a free 3' -OH group which is referred to as 3'- end of the polynucleotide chain.		Similarly, at the other end of the polymer the sugar has a free 3' -OH group which is referred to as 3'- end of the polynucleotide chain.
12	107	6.Molecular Basis of Inheritance	Except the adenosine now forms base pair with uracil instead of thymine.		Except the adenosine complements now forms base pair with uracil instead of thymine.
13	111	6.Molecular Basis of Inheritance	The process of translation requires transfer of genetic information from a polymer of nucleotides to a polymer of amino acids.		The process of translation requires transfer of genetic information from a polymer of nucleotides to from a polymer of amino acids.
14	112	6.Molecular Basis of Inheritance	<p>The salient features of genetic code are as follows:</p> <p>(i)The codon is triplet. 61 codons code for amino acids and 3 codons do not code for any amino acids, hence they function as stop codons.</p> <p>(ii)One codon codes for only one amino acid, hence, it is unambiguous and specific.</p> <p>(iii)Some amino acids are coded by more than one codon, hence the code is degenerate.</p> <p>(iv)The codon is read in mRNA in a contiguous fashion. There are no punctuations.</p> <p>(v)The code is nearly universal: for example, from bacteria to human UUU would code for Phenylalanine (phe). Some exceptions to this rule have been found in mitochondrial codons, and in some protozoans.</p> <p>(vi)AUG has dual functions. It codes for Methionine (met) , and it also act as initiator codon.</p>		<p>The salient features of genetic code are as follows:</p> <p>(i)The codon is triplet. 61 codons code for amino acids and 3 codons do not code for any amino acids, hence they function as stop codons.</p> <p>(ii)Some amino acids are coded by more than one codon, hence the code is degenerate.</p> <p>(iii)The codon is read in mRNA in a contiguous fashion. There are no punctuations.</p> <p>(iv)The code is nearly universal: for example, from bacteria to human UUU would code for Phenylalanine (phe). Some exceptions to this rule have been found in mitochondrial codons, and in some protozoans.</p> <p>(v)AUG has dual functions. It codes for Methionine (met) , and it also act as initiator codon.</p> <p>(vi) UAA, UAG, UGA are stop terminator codons.</p>
15	114	6.Molecular Basis of Inheritance	 <p>Figure 6.12 tRNA - the adapter molecule</p>		 <p>Figure 6.12 tRNA - the adapter molecule</p>
16	141	7.Evolution	Pre-historic cave art developed about 18,000 years ago. Agriculture came around 10,000 years back and human settlements started.		Pre-historic cave art developed about 18,000 years ago One such cave paintings by Pre-historic humans can be seen at Bhimbetka rock shelter in Raisen district of Madhya Pradesh. Agriculture came around 10,000 years back and human settlements started.
17	158	8.Human Health and Disease	 <p>Figure 8.7 Chemical structure of Morphine</p>		 <p>Figure 8.7 Chemical structure of Morphine</p>

Sno.	Page No.	Topic	Previous Content	Content Added	Updated Content
18	159	8.Human Health and Disease	Drugs like barbiturates, amphetamines, benzodiazepines, lysergic acid diethyl amides (LSD) , and other similar drugs, that are normally used as medicines to help patients cope with mental illnesses like depression and insomnia, are often abused.		Drugs like barbiturates, amphetamines, benzodiazepines, and other similar drugs, that are normally used as medicines to help patients cope with mental illnesses like depression and insomnia, are often abused.
19	176	9.Strategies for Enhancement in Food Production	Microbes are being grown on an industrial scale as source of good protein. Microbes like Spirulina can be grown easily on materials like waste water from potato processing plants (containing starch), straw, molasses, animal manure and even sewage, to produce large quantities and can serve as food rich in protein, minerals, fats, carbohydrate and vitamins. Incidentally such utilisation also reduces environmental pollution.		Microbes are being grown on an industrial scale as source of good protein. (Blue-green algae) Microbes like Spirulina can be grown easily on materials like waste water from potato processing plants (containing starch), straw, molasses, animal manure and even sewage, to produce large quantities and can serve as food rich in protein, minerals, fats, carbohydrate and vitamins. Incidentally such utilisation also reduces environmental pollution.
20	176	9.Strategies for Enhancement in Food Production	It has been calculated that a 250 Kg cow produces 200 g of protein per day. In the same period, 250g of a micro-organism like Methylophilus methylotrophus, because of its high rate of biomass production and growth, can be expected to produce 25 tonnes of protein.		Certain bacterial species like Methylophilus methylotrophus, because of its high rate of biomass production and growth, can be expected to produce 25 tonnes of protein.
21	179	10.Microbes in Human Welfare	Microbes are diverse– protozoa, bacteria, fungi and microscopic plants viruses, viroids and also prions that are proteinacious infectious agents.		Microbes are diverse– protozoa, bacteria, fungi and microscopic animal and plant viruses, viroids and also prions that are proteinacious infectious agents.
22	194	11.Biotechnology: Principles and Processes	(ii)Maintenance of sterile (microbial contamination-free) ambience in chemical engineering processes to enable growth of only the desired microbe/eukaryotic cell in large quantities for the manufacture of biotechnological products like antibiotics, vaccines, enzymes, etc.		(ii) Bioprocess engineering Maintenance of sterile (microbial contamination-free) ambience in chemical engineering processes to enable growth of only the desired microbe/eukaryotic cell in large quantities for the manufacture of biotechnological products like antibiotics, vaccines, enzymes, etc.
23	197	11.Biotechnology: Principles and Processes	 <p>Figure 11.2 Diagrammatic representation of recombinant DNA technology</p>		 <p>Recombinant DNA Molecule</p> <p>E. coli (Cloning Host)</p>
24	199	11.Biotechnology: Principles and Processes	The recombinant plasmids will lose tetracycline resistance due to insertion of foreign DNA but can still be selected out from non-recombinant ones by plating the transformants on ampicillin containing medium.		The recombinant plasmids will lose tetracycline resistance due to insertion of foreign DNA but can still be selected out from non-recombinant ones by plating the transformants on tetracycline containing medium.
25	200	11.Biotechnology: Principles and Processes	This results into inactivation of the enzyme, which is referred to as insertional inactivation.		This results into inactivation of the gene for synthesis of this enzyme, which is referred to as insertional inactivation.
26	208	12.Biotechnology and its Applications	(v)enhanced nutritional value of food, e.g., Vitamin 'A' enriched rice.		(v)enhanced nutritional value food , e.g. golden rice i.e., Vitamin 'A' enriched rice.
27	209	12.Biotechnology and its Applications	The toxin is coded by a gene named cry.		The toxin is coded by a gene cryIAc named cry.

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28	220	13.Organisms and Populations	perpetually rain-soaked Meghalaya forests, deep ocean trenches, torrential streams, permafrost polar regions, high mountain tops, boiling thermal springs, and stinking compost pits, to name a few. Even our intestine is a unique habitat for hundreds of species of microbes.		rain-soaked Meghalaya forests, deep ocean trenches, torrential streams, permafrost(snow laden) polar regions, high mountain tops, boiling thermal springs, and stinking compost pits, to name a few. Even our intestine is a unique habitat for hundreds of species of microbes.
29	222	13.Organisms and Populations	Water: Next to temperature , water is the most important factor influencing the life of organisms. In fact, life on earth originated in water and is unsustainable without water. Its availability is so limited in deserts that only special adaptations make it possible to live there		Water: Water is another the most important factor influencing the life of organisms. In fact, life on earth originated in water and is unsustainable without water. Its availability is so limited in deserts that only special adaptations make it possible for organism to live there
30	224	13.Organisms and Populations	the organism has two other alternatives.		the organism has two other alternatives for survival .
31	225	13.Organisms and Populations	their stomata arranged in deep pits to minimise water loss through transpiration.		their stomata arranged in deep pits (sunken) to minimise water loss through transpiration.
32	226	13.Organisms and Populations	If you had ever been to any high altitude place (>3,500m Rohtang Pass near Manali and Mansarovar ,		If you had ever been to any high altitude place (>3,500m Rohtang Pass near Manali and Leh ,
33	226	13.Organisms and Populations	How do they live under such crushing pressures and do they have any special enzymes?		How do they live under such high pressures and do they have any special enzymes?
34	236	13.Organisms and Populations	as they move, stir up and flush out from the vegetation insects that otherwise might be difficult for the egrets to find and catch.		as they move, stir up and flush out insects from the vegetation that otherwise might be difficult for the egrets to find and catch.
35	250	14.Ecosystem	During succession some species colonise an area and their populations become more numerous , whereas populations of other species decline and even disappear.		During succession some species colonise an area and whereas populations of other species decline and even disappear.
36	250	14.Ecosystem	Succession is hence a process that starts where no living organisms are there		Succession is hence a process that starts in an area where no living organisms are there
37	253	14.Ecosystem	What is important is to appreciate that nutrients which are never lost from the ecosystems, they are recycled time and again indefinitely.		What is important is to appreciate that nutrients which are never lost from the ecosystems, rather they are recycled time and again indefinitely.
38	256	14.Ecosystem	SUMMARY An ecosystem is a functional unit of nature and comprises abiotic and biotic components.		SUMMARY An ecosystem is a structural and functional unit of nature and comprises abiotic and biotic components.
39	278	16.Environmental Issues	Burning reduces the volume of the wastes, although it is generally not burnt to completion and open dumps often serve as the breeding ground for rats and flies.		Burning reduces the volume of the wastes, although it is generally not completely burnt to completion and open dumps often serve as the breeding ground for rats and flies.