

HAPPY DAYS SCHOOL, SHIVPURI (M.P.)



DEPARTMENT OF SCIENCE CLASS- XI (Biology)

	CLASS- AI (Biology)							
MONTH	CHAPTER	EXPECTED	PEDAGOGICAL	ASSESSMENT	RUBRICS	ART	ICT	
		LEARNING	APPROACH	TOOLS		INTEGRATION	INTEGRATI	
		OUTCOMES	(TEACHING				ON	
			METHODS/					
			STRATEGIES)					
	Ch.1 The living	Biodiversity; Needs for	Constructivist	Classroom	Content,	Herbarium file		
	world	classification; taxonomy	approach	discussions	neatness,			
		and systematic; binomial	Reflective approach	,Question answer	completeness			
		nomenclature		session	1			
				Portfolio	and a second			
		Five kingdom	Constructivist	Classroom	Content,			
	Ch.2 Biological	classification, salient	approach	discussions	neatness,			
	classification	features and classification	Reflective approach	,Question answer	completeness			
		of Monera, Protista and		session				
×		Fungi, Lichens, viruses and	NA ANA	Portfolio				
JULY		viroids						
l	Ch.3 Plant	Features and classification	Constructivist	Classroom	Concept,		Modules on	
	kingdom	of plants into major	approach Reflective	discussions	Procedure,		plant	
		groups(Algae, Bryophyta,	approach	explaination	Presentation		kingdom	
		Pteridophyta, Gymnosperm		through living				
				specimens of				
		a shift of the second sec		plant				
				,Question answer				
	and the second second	SC		session				
				Portfolio				
				Lab activity-	~			
	Ch.4 Animal	Features and classification	Constructivist	Classroom	Concept,			
	kingdom	of animals(non-chordates	approach Reflective	discussions	Procedure,			
		upto phyla level and	approach	,Question answer	Presentation,			
		chordates upto class level		session	performance,			
				Portfolio	analysis	-		
	11100	tion t	n Ch	Lab activity	\sim	inno		
						NES		





	PRE MID TERM EXAMINATION							
	Ch.5 Morphology	Morphology	Constructivist	Classroom				
	of Flowering	of different parts of	approach Reflective	discussion,	Content,			
	Plants	flowering plants: root,	approach ,Inquiry	explaination	Research,			
		stem, leaf, inflorescence,	based	through living	data			
		flower, fruit and seed,		specimens of	collection			
AUGUST		Description of family		plant(nature	Presentation			
ACCOST		Solanaceae		waik),project	performance,			
				Lab activity	analysis			
	Ch.6 Anatomy of	Anatomy and functions of	Reflective approach	Classroom	Concept,	floral diagrams and		
	flowering plants	tissues system of dicots and	,Inquiry based	discussion,	Procedure,	formulae of different		
		monocots.		Question answer	Presentation,	families		
				session	performance,			
				Portfolio	analysis			
				Lab activity				
	Ch.7 Structural	Morphology, anatomy and	Constructivist	Classroom	Concept,			
	organization in	functions of different	approach Reflective	discussion,	Procedure,			
	animals	systems of Frog	approach	Question answer	Presentation			
				session	2 19 2 10			
				Portfolio	11/10			
	Ch.8 Cell- The	Cell theory, structure of	Constructivist	Classroom	Content,		Modules on	
	unit of life	prokaryotic and eukaryotic	approach Reflective	discussions	neatness		structure and	
		cells; Plant cell and animal	approach	,Question answer	,completenes		functioning of	
	and the second second	cell; cell envelope; cell	$- \circ$	session	S		cell organells	
N N		membrane, cell wall cell organelles-structure		Portfolio Lab Activity	performance,			
SEPTEMBER		and function;		Lab Activity	data			
W	0	endomembrane system,	SC		collection,			
EI		endoplasmic reticulum,			analysis			
À		golgi bodies, lyosomes,		1 .6 .				
SI		vacuoles; mitrochodria,						
		ribosomes, plastids,	-		140			
60	1100	microbodies; cytoskeleton,	n Ch	000	\sim	11100		
	ULC	cilia, flagella, centrioles,				IVES		
		nucleus.		0.19				
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	Ch.9	Biomolecules, structure and	Constructivist	Classroom	Concept,		
	Biomolecules	function of proteins	approach Reflective	discussions	Procedure,		
		carbohydrates, lipids,	approach	,Question answer	Presentation,		
		nucleic acids; Enzymes-		session	performance,		
		types, properties, enzyme		Portfolio	analysis		
		action.		Lab Activity			
	Ch.10 Cell Cycle	Cell cycle, mitosis, meiosis	Constructivist	Classroom	Concept,	stages of cell cycles	
	and Cell Division	and their significance	approach Reflective	discussions	Procedure,		
			approach	,Question answer	Presentation		
				session	2		
		MII	D TERM EXAMINAT	ION	hered -		
	Ch.11	Site of photosynthesis,	Constructivist	Classroom	Content,		Modules on
	Pho <mark>tosynthesis</mark> in	pigments involved in	approach Reflective	discussions,	neatness		photophosphor
	higher plants	photosynthesis, cyclic and	approach	Question answer	,completenes		elation
		non-cyclic		session	S		
~		photophosphorylation, chem	\sim	Portfolio			
E		iosmotichypothesis;photore					
B		spiration;C3 andC4					
LC		pathways; factors affecting					
OCTOBER		photosynthesis.			571 61		
9	Ch.12	Cellular respiration-	Constructivist	Classroom	Content,		
	Respiration in	glycolysis, fermentation,	approach Reflective	discussions,	neatness		
	plants	TCA cycle and electron	approach	Question answer	,completenes		
		transport system,		session	s		
		amphibolic pathways,		Portfolio	- /		
		respiratory quotient.					
	Ch.13 Plant-	Phages of plant growth,	Constructivist	Classroom	Content,		
K	Growth and	conditions of growth,	approach Reflective	discussions,	neatness		
NOVEMBER	developme <mark>nt</mark>	differentiation,	approach	Question answer	,completenes		
		dedifferentiation and		session	S		
HE		redifferentiation, sequence		Portfolio			
6		of developmental	-				
ž	1100	processesing a plant cell;	nrh	ana	\cap	11100	
	ULO	growth regulators.				IVES	in in in





Ch.	.14 Breathing	Respiratory syst	em, Constructivist	Classroom	Content,	
and	l Exchange of	mechanism of breath	ing, approach Reflective	discussions,	neatness	
gas	ses	exchange of gases, transp	oort approach	Question answer	,completenes	
		of gases & regulation	of	session	S	
		respiration respirat	ory	Portfolio		
		disorders				
		Composition of blo	ood, Constructivist	Classroom	Content,	Module on
Ch.	.15		nan approach Reflective	discussion,	neatness	functioning of
Boo	dy flui <mark>d and</mark>	circulatory syst	em, approach	Question –	,completenes	blood
circ	culation	regulation of care	liac	Answer session	S	circulation
		activity, cardiac disorder	·S.	,portfolio	the said	
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	POST MID TERM EXAMINATION							
	Ch.16	Modes of excretion human	Constructivist	Classroom	Content,	Chart of disorders		
	Excretory	excretory system -structure	approach Reflective	discussion,	neatness	of different organ		
	products and their	and functioning, role of	approach	Question –	,completenes	systems		
•	Elimination	other organs in excretion,		Answer session	s			
ER		disorders, Dialysis,		,Sketch	performance,			
ECEMBER		Artificial kidney, kidney		Lab activity	analysis			
E		transplant						
C	Ch.17	Types of movement's	Constructivist	Classroom	Concept,			
μ μ	Locomotion and	skeletal muscle- its	approach Reflective	discussion,	Procedure,			
	movement	functioning, skeleton	approach	Question –	Presentation,			
		system -structure and		Answer session				
		function, Disorders of		,Sketch				
		muscular and skeletal	· · ·					
	Ch.18	system. Nervous system in humans,	Constructivist	Classroom	Concept,		Module on	
	Neural Control	generation and conduction	approach Reflective	discussion,	Procedure,		generation	
	and Coordination	of nerve impulse.	approach	Question –	Presentation,		and	
	und Coordination	or her ve impulse.	upprouen	Answer session	Tresentation,		conduction	
25				,Sketch		1	of a nerve	
JANUARY							impulse	
IAI	Ch.19	Endocrine glands and	Constructivist	Classroom	Content,	chart on		
Z	Chemical	hormones, mechanism of	approach Reflective	discussion,	neatness	mechanism ,role		
IA	coordination and	hormone action, role of	approach, Inquiry	Question –	,completenes	and regulation of		
	integration	hormones as messengers	based	Answer session	S	hormones(endocrin		
		and regulators, hypo-and		,Sketch,		e glands)		
		hyperactivity and related		assignment				
	C	disorders.	REVISION & FINA		T			
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(NEELAM BHARDWAJ) (ANJU SHARMA)								





CLASS- XII BIOLOGY (044) MONTH **CHAPTER EXPECTED** PEDAGOGICAL ASSESSMENT RUBRICS ART ICT LEARNING OUTCOMES **APPROACH** TOOLS **INTEGRATION INTEGRATION** (TEACHING **METHODS**/ **STRATEGIES**) Modules on pre 1. Sexual Structure of flower. Constructivist. Classroom Content. reproduction in development of male and discussion. and post ,Inquiry based, neatness. performance flowering plants female gametophytes, fertilization Question answer Integrative , completion events in plant pollination-types, agencies, session. pollen-pistil interaction; assignment, Lab fertilization, post double activities. fertilization events, special modes-apomixis, parthenocarpy, polyembriony. -2. Human Male and female reproductive Constructivist ,Inquiry Classroom Content, Flow charts on hormonal reproduction system, anatomy of testes and based, Integrative presentatio discussion. APRIL gametogenesis, ovary, n. control in human Ouestion menstrual cycle, fertilization, performanc beings answer session. embryogenesis, implantation; . Lab activities. and pregnancy placenta completion assignment formation, parturition. 3. Reproductive reproductive health Constructivist ,Inquiry and Classroom Content. prevention from STDs, birth health neatness based. Integrative discussion. control: need and methods. Ouestion completion contraception and MTP answer session. amniocentesis and assisted Curriculum reproductive technologies. activities, assignment

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	4. Heredity and	Mendelian inheritance,	Constructivist ,Inquiry	Classroom	Content,	Pedigree charts	Modules on
	variation	deviation from Mendelism,	based, Integrative	discussion,	neatness,		Mendalian
		pleiotropy, chromosome		Question	completion,		disordes
		theory of inheritance, sex		answer session,	performanc		
		determination-in human, bird		, Lab activities,	e, data		
		sand honey bee, linkage and			collection,		
		crossing over, sex linked		assignment	analysis		
		inheritance, mendelian		6			
Υ		disorders.			10		
JULY	5. Molecular basis	Structure of DNA and RNA,	Constructivist,	Classroom	Content,		Modules on
ſ	of inheritance	DNA packaging, replication	Inquiry based,	discussion,	neatness,		chromosomal
		Lac Operon, genom project,	Integrative	Question	completion		disorders in
		DNA fingerprinting	6	answer session,	performance		human beings
	a second second		• • •	Curriculum	, data		
				activities,	collection,		
				· · · · · · · · · · · · · · · · · · ·	analysis		
				assignment			
				Lab activity	12		
					14		
			PRE MID TERM E	XAMINATION A CAMINATION			
	6. Evolution	Origin of life, biological	Constructivist ,Inquiry	Classroom	Content,		
		evolution and evidences,	based, Integrative	discussion,	neatness,		
LS		Darwin's contribution ,		Question	completion		
AUGUST	-	modern theory of evolution,	> ~	answer session,			Module on
N.		mechanism of evolution, types		Curriculum			history of Human
A		of natural selection, gene flow		activities,			Evolution
		and gene tic drift, Hardy-		assignment			
	-	Weinberg's principle,		assignment	100	_	
	Juan	adaptive radiation, human	- Chi		~ 1	11100	· · · · · · · · · · · · · · · · · · ·
		evolution				VES	





	7. Human health	Pathogens; parasites causing	Concnstructivist,	Classroom	Content,	chart on parasites	
	and diseases	human diseases, and their	Inquiry based,	discussion,	neatness,	causing human	
		control, basic concepts of	Integrative	Question	completion	diseases and their	
		immunology-vaccines-cancer	0	answer session,		control	
		HIV and AIDS, adolescence-		Curriculum			
		drug and alcohol abuse.		activities,			
				assignment	4		
	8. Microbes in	Microbes In household food	Constructivist,	Classroom	Content,		
	human welfare	processing, industrial	Inquiry based,	discussion,	neatness,		
		production, sewage treatment,	Integrative	Question	completion		
		energy generation and		answer session,			
		microbes as bio-control agents		Lab activities,			
		and bio-fertilizers, antibiotics-	0 0 0	assignment			
		production and judicious use.					
	9.	Genetic	Constructivist,	Classroom	Content,		
R	Biotechnology— Principles and	engineering(Recombinant DNA technology)	Inquiry based,	discussion,	neatness, completion		
SEPTEMBER	Processes	DIVA (echilology)	Integrative	Question	completion		
E	110003505			answer session,			
E				Curriculum			
E		a similar similar similar		activities,			
		(CC)	10	assignment			
	10. Biotechnology	Application of biotechnology	Constructivist,	Classroom	Content,		Modules on
	and its application	in health and agriculture, gene	Inquiry based,	discussion,	neatness,		Application of
	0	therapy, genetically modified	Integrative	Question	completion		biotechnology
		organisms-Bt cotton trangenic animals bio safty issues,	2 6	answer session,			
		biopiracy and patents.		Curriculum			
		biophacy and patents.		activities,			
	1	All man the	- 01-	assignment			
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	MID TERM EXAMINATION						
OCTOBER	11. Organisms and populations	Population interactions (mutalism, comptetion, predation, parasitism,) population attributes(growth, birth rate and death rate, age distribution)	Constructivist ,Inquiry based, Integrative	Classroom discussion, Question answer session, assignment, lab activity	Content, neatness, completion performance , data collection, analysis	Draw different types of population pyramids	
~	12. Ecosystem	Ecosystem; patterns, components, productivity and decoposition; energy flow, pyramids of number, biomass, energy	Constructivist , Inquiry based, Integrative	Classroom discussion, Question answer session, Curriculum activities, assignment	Content, neatness, completion		
NOVEMBER	13. Biodiversity and its conservation(conti nue)	Biodiversity- concept patterns, importance, loss of biodiversity , biodiversity conservation, hotspots, endangered organisms, extinction, Red Data Book, biosphere reserves, national parks sanctuaries and Ramsar sites.	Constructivist ,Inquiry based, Integrative	Classroom discussion, Question answer session, Curriculum activities, assignment	Content, neatness, completion		
DEC.	1 ST PRE BOARD EXAMINATION						
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