

RAJARSHI SHAHU JR SCIENCE COLLEGE, LATUR
SCREENING TEST - 2019
SYLLABUS : PHYSICS

1	MOTION	2
	1. UNIFORM & NON UNIFORM MOTION	
	2. SPEED & VELOCITY	
	3. ACCELERATION	
	4. v-t, a-t, s-t GRAPHS	
	5. EQUATION OF MOTION	
2	FORCE AND LAWS OF MOTION	3
	1. FORCE & MOTION	
	2. TYPES OF FORCES	
	3. BALANCED & UNBALANCED FORCES	
	4. TYPES OF INERTIA	
	5. NEWTONS LAWS OF MOTION	
	6. PRINCIPLE OF CONSERVATION OF LINEAR MOMENUM	
	7. FRICTION & ITS APPLICATION	
3	WORK & ENERGY	2
	1. METHOD TO CALCULATE WORK	
	2. KINETIC ENERGY & POTENTIAL ENERGY	
	3. POWER	
	4. CONSERVATION OF MECHANICAL ENERGY	
	5. FREELY FALLING BODY	
4	GRAVITATION	2
	1. PULL OF EARTH (CENTRIPIETAL & CENTRIFUGAL FORCE)	
	2. UNIVERSAL LAW OF GRAVITATION	
	3. ACCELERATION DUE TO GRAVITY	
	4. VARIATION IN VALUE OF G (HEIGHT & DEPTH & SHAPE OF EARTH)	
	5. MASS & WEIGHT	
	6. FREE FALL	
	7. KEPLER'S LAW	
5	HEAT	2
	1. LATENT HEAT	
	2. ANOMALOUS BEHAVIOUR OF WATER	
	3. HEAT & IT'S UNIT	
	4. SPECIFIC HEAT	
	5. HEAT EXCHANGE	
	6. METHOD OF MIXTURES & CALORIMETRY	
6	SOUND	2
	1. SOUND WAVES	
	2. VELOCITY OF SOUND WAVE	
	3. AUDIBLE AND INFRASONIC, ULTRASONIC SOUND	
	4. REFLECTION OF SOUND (ECHO)	
7	ELECTRICITY	3
	1. ELECTRIC CHARGE, ELECTRIC CURRENT	
	2. ELECTRIC CIRCUIT	
	3. VARIOUS COMPONENT & SYMBOL OF ELECTRIC CIRCUIT	
	4. POTENTIAL, POTENTIAL DIFFERENCE	
	5. OHM'S LAW, RESISTANCE, RESISTIVITY	
	6. COMBINATIONS OF RESISTORS	
	7. CONDUCTORS AND INSULATORS	
	8. HEATING EFFECT	
	9. GALVANOMETER	
	10. AC AND DC DIFFERENCE	

RAJARSHI SHAHU JR SCIENCE COLLEGE, LATUR
SCREENING TEST - 2019
SYLLABUS : PHYSICS

8	ELECTRO MAGNETISM	2
	1. MAGNETIC LINES OF FORCE	
	2. MAGNETIC FIELD DUE TO CURRENT CARRYING CONDUCTOR	
	3. FORCE ON CURRENT CARRYING CONDUCTOR	
	4. SOLENOID	
	5. ELECTROMAGNETIC INDUCTION	
	6. GENERATOR, ELECTRIC MOTOR	
	7. FARADAY'S LAWS OF EMI	
	8. FLEMING RIGHT HAND RULE	
9	LIGHT AND OPTICAL INSTRUMENT	2
	1. LAWS OF REFLECTION	
	2. REFLECTION FROM PLANE & SPHERICAL SURFACES	
	3. NO. OF IMAGES	
	4. REFRACTION	
	5. LAWS OF REFRACTION	
	6. REFRACTIVE INDEX	
	7. DISPERSION	
	8. TOTAL INTERNAL REFLECTION	
	9. LENS FORMULA	
	10. MAGNIFICATION	
	11. POWER OF LENSES	

SCREENING TEST - 2019 : SYLLABUS - CHEMISTRY

1	MEASUREMENT OF MATTER	
	1. LAWS OF CHEMICAL COMBINATION	
	2. ATOM - SHAPE, MASS, VALENCY	
	3. MOLECULAR MASS AND CONCEPT OF MOLE	
	4. RADICALS	
2	ACIDS BASES AND SALTS	
	1. ARRHENIUS THEORY OF ACIDS AND BASES	
	2. CONCENTRATION OF AN ACID OR A BASE	
	3. pH OF SOLUTION	
	4. pH OF AN ACID AND A BASE	
	5. SALTS	
3	CARBON - AN IMPORTANT ELEMENT	
	1. CARBON OCCURANCE, PROPERTIES AND ALLOTSOPES	
	2. HYDROCARBONS	
	3. CO ₂ AND METHANE-OCCURANCE , PROPERTIES & USES.	
4	SUBSTANCES IN COMMON USE	
	1. IMPORTANT SALTS IN DAY TO DAY LIFE-NaCl, NaHCO ₃ , CaOCl ₂ , Na ₂ CO ₃ , SOAP	
	2. RADIOACTIVE SUBSTANCES	
	3. SOME CHEMICAL SUBSTANCES IN DAY TO DAY LIFE	
	FOOD COLORS & ESSENCE	
	DYES , ARTIFICIAL COLOURS	
	DEODRANT, TEFLON	
	POWDER COATING , ANODISING	
	CERAMICS, PORCELAIN, BONE CHINA	
5	PERIODIC CLASSIFICATION OF ELEMENTS	
	ELEMENTS AND THEIR CLASSIFICATION	
	NEWLANDS LAW OF OCTAVES	
	MODERN PERIODIC TABLE	
	DOBEREINER'S TRIADS	
	MENDELEEV'S PERIODIC TABLE	
6	CHEMICAL REACTIONS AND EQUATIONS	
	1. CHEMICAL REACTIONS	
	2. BALANCING A CHEMICAL EQUATION	
	3. RULES OF WRITING CHEMICAL REACTION	
	4. TYPE OF CHEMICAL REACTION	
7	METALLURGY	
	PHYSICAL AND CHEMICAL PROPERTIES OF METALS	
	PHYSICAL AND CHEMICAL PROPERTIES OF NONMETALS	
	VARIOUS CONCEPTS OF METALLURGY	
	REACTIVITY SERIES OF METALS	
	IONIC COMPOUNDS	
8	CARBON COMPOUNDS	
	BONDS IN CARBON COMPOUNDS	
	HYDROCARBONS, FUNCTIONAL GROUPS & HOMOLOGOUS SERIES	
	CHEMICAL PROPERTIES OF CARBON COMPOUNDS	
	CARBON - A VERSATILE ELEMENT	
	NOMENCLATURE OF CARBON COMPOUNDS	
	MACROMOLECULES & POLYMERS	
	IMPORTANT CARBON COMPOUNDS : ETHANOL AND ETHANOIC ACID	

SCREENING TEST - 2019 : SYLLABUS - BIOLOGY

1	DIVERSITY IN LIVING ORGANISM	
	WHAT IS BASIS OF CLASSIFICATION?	
	THE HIERARCHY OF CLASSIFICATION-GROUP. (MONERA, PROTISTA, FUNGI, PLANTAE, ANIMALIA)	
2	CLASSIFICATION OF PLANTS:	
	KINGDOM PLANTS,	
	BASIS OF CLASSIFICATION	
	THALLOPHYTA, BRYOPHYTA, PTERIODPHYTA, PHANEROGAMS.	
3	ANIMAL CLASSIFICATION	
	HISTORY OF ANIMAL CLASSIFICATION.	
	TRADITIONAL METHOD OF ANIMAL CLASSIFICATION.	
	NEW(METHOD) SYSTEM OF ANIMAL CLASSIFICATION.	
	CRITERIA - GRADE OF ORGANISATION, BODY SYMMETRY, GERM LAYERS, BODY CAVITY, BODY SEGMENTATION	
	KINGDOM ANIMALIA - FROM PHYLUM PORIFERA TO CHORDATA. (NON-CHORDATES UPTO PHYLUM LEVEL AND CHORDATES UPTO CLASS LEVEL)	
4	FUNDAMENTAL UNIT OF LIFE	
	WHAT ARE LIVING ORGANISM?	
	CYTOLOGY, STEM CELL	
	WHAT IS CELL MADE UP?	
	STRUCTURE AND DIFFERENCE BETWEEN ANIMAL AND PLANT CELL.	
	CELL THEORY.	
	PLASMA MEMBRANE AND CELL MEMBRANE.	
	CELL WALL, NUCLEUS, CYTOPLASM, CELL ORGANELLES, ENDOPLASMIC RETICULUM. (ER), GOLGI APPARATUS, LYSOSOMES, MITOCHONDRIA, PLASTID, VACUOLES.	
5	CELL CYCLE AND CELL DIVISION	
	CELL CYCLES PHASES IN BRIEF.	
	MITOSIS AND ITS PHASES	
	MEIOSIS AND ITS PHASES	
	SIGNIFICATION.	
6	TISSUE	
	ANIMAL TISSUE	
	TYPES OF EPITHELIAL TISSUE, CONNECTIVE TISSUE, MUSCULAR TISSUE, NERVOUS TISSUE.	
	PLANT TISSUE	
	MERISTEMATIC TISSUE, PERMANENT TISSUE, TYPES OF SIMPLE AND COMPLEX TISSUES.	
7	LIFE PROCESSES IN LIVING ORGANISM	
	TRANSPORTATION IN PLANTS-	
	TRANSPORTATION OF WATER , FOOD AND OTHER SUBSTANCES,	
	LIVING ORGANISM AND ENERGY PRODUCTION	
	GLYCOLYSIS, TCA CYCLE, ETC.	
	RESPIRATION : AEROBIC AND UNAEROBIC RESPIRATION	
	ENERGY FROM DIFFERENT FOOD COMPONENTS.	
	PHOTOSYNTHESIS	
	PLANTS GROWTH	
	NUTRITION	
	CIRCULATION	
	EXCRETION IN PLANTS AND HUMAN BEINGS, DIALYSIS.	
	COORDINATION-	
	CO-ORDINATION IN PLANTS AND HUMAN.	
	NERVOUS CONTROL - TYPES OF NEURONS, HUMAN NERVOUS SYSTEM-CNS, PNS, ANS, REFLEX ACTION,	

SCREENING TEST - 2019 : SYLLABUS - BIOLOGY

	CHEMICAL-CONTROL	
	REPRODUCTION	
	ASEXUAL REPRODUCTION- BINARY FISSION, MULTIPLE FISSION, BUDDING, FRAGMENTATION, REGENERATION, VEGETATIVE PROPAGATION, SPORE FORMATION	
	SEXUAL REPRODUCTION- GAMETES FORMATION, FERTILISATION, SEXUAL REPRODUCTION IN PLANTS.	
	SEXUAL REPRODUCTION IN HUMAN BEING- MALE AND FEMALE REPRODUCTIVE SYSTEM, MENSTRUATION CYCLE, GAMETES FORMATION, FERTILISATION, DEVELOPMENT AND BIRTH	
	REPRODUCTION AND MODERN TECHNOLOGY- IVF, SPERM BANK, TWINS.	
	REPRODUCTIVE HEALTH	
8	HEREDITY AND VARIATION	
	INHERITANCE - HEREDITY, HEREDITARY CHANGES.	
	INHERITANCE OF TRAITS AND EXPRESSION OF TRAITS- CHROMOSOMES, TYPES OF CHROMOSOME.	
	DNA- GENE, TRANSCRIPTION, TRANSLATION, TRANSLOCATION.	
	RNA AND MUTATION (BRIEF)	
	MENDEL'S PRINCIPLES OF HEREDITY- MONOHYBRID CROSS, DIHYBRID CROSS	
	GENETIC DISORDER -DISORDERS DUE TO CHROMOSOMAL ABNORMALITIES, MONOGENIC DISORDER, MITOCHONDRIAL DISORDER, POLYGENIC DISORDER, SEX DETERMINATION.	
9	INTRODUCTION TO BIOTECHNOLOGY	
	BIOTECHNOLOGY- MAIN AREAS AND BENEFITS.	
	COMMERCIAL APPLICATION	
	IMPORTANT STAGES IN AGRICULTURAL DEVELOPMENT	
	GREEN,WHITE AND BLUE REVOLUTION.	
	FERTILISERS (INSECTICIDE, ORGANIC FARMING)	
	CULTIVATION OF MEDICINAL PLANTS.	
	FRUIT PROCESSING	
	TISSUE CULTURE	
	CHANGES IN AGRICULTURE MANAGEMENT DUE TO BIOTECHNOLOGY	
	APPLICATION OF BIOTECHNOLOGY IN FLORICULTURE, NURSERIES AND FORESTRY, AGRITOURISM,	
	AGRO COMPLEMENTARY OCCUPATION	
	ANIMAL HUSBANDRY, POULTRY FARMING, APICULTURE, SERICULTURE.	
10	INTRODUCTION TO MICROBIOLOGY	
	APPLIED MICROBIOLOGY.	
	DEFINITION AND IMPORTANCE.	
	INDUSTRIAL MICROBIOLOGY :	
	DEFINITION AND PRODUCTS (DAIRY ,YOGHURT, BUTTER,CHEESE, PROBIOTICS, BREAD, VINEGAR, PRODUCTION OF BEVERAGES, MICROBIAL ENZYMES, ORGANIC ACIDS USED IN VARIOUS COMMERCIAL PRODUCTS AND MICROBES USEFUL FOR SAME, SUBSTANCE OCCURRED FROM MICROBIAL PROCESSING AND THEIR ROLES, MICROBES AND FUEL, MICROBIAL POLLUTION CONTROL, SEWAGE MANAGEMENT, CLEAN TECHNOLOGY, MICROBIAL INOCULANTS.)	
	USEFUL AND HARMFUL MICROBE	
	USEFUL MICRO-ORGANISMS(LACTOBACILLI, RHIZOBIUM, YEAST, ANTIBIOTICS),	
	HARMFUL MICRO-ORGANISM (CLOSTRIDIUM OTHER MICROBES).	
11	HEALTH AND DISEASE / WHY DO WE FALL ILL ?	
	HEALTH	
	DISEASE AND ITS CAUSES-ACUTE AND CHRONIC DISEASE, CAUSES OF DISEASE,	
	INFECTIOUS AND NON INFECTIOUS DISEASES	

SCREENING TEST - 2019 : SYLLABUS - BIOLOGY

	DISEASE CAUSING AGENTS, MEANS OF SPREAD	
	TREATMENT AND PREVENTION (T.B., TYPHOID, HEPATITIS, RABIES, POLIO, AIDS, DIARRHOEA.)	
12	SOCIAL HEALTH	
	FACTORS AFFECTING / DISTURBING THE SOCIAL HEALTH.	
	MENTAL STRESS, ADDICTION, INCURABLE DISEASE.	
	COMMUNICATION MEDIA AND EXCESSIVE USE OF MODERN TECHNOLOGY, CYBER CRIME.	
	STRESS MANAGEMENT-UNIFIED MOVEMENT AGAINST TOBACCO, SALAAM MUMBAI FOUNDATION, GOVERNMENT SCHEME	
13	EVOLUTION	
	THEORY OF EVOLUTION	
	EVIDENCES OF EVOLUTION- MORPHOLOGICAL, ANATOMICAL, PALEONTOLOGICAL, EMBRYOLOGICAL EVIDENCES, VESTIGIAL ORGANS, CONNECTING LINK,	
	DARWIN'S THEORY OF NATURAL SELECTION, LAMARCKISM, SPECIATION, HUMAN EVOLUTION.	
	TRACING EVOLUTIONARY RELATIONSHIP, FOSSILS, EVOLUTION BY STAGES.	
14	ENERGY FLOW IN AN ECOSYSTEM	
	FOOD CHAIN AND FOOD WEB,	
	ENERGY PYRAMID.	
	ENERGY FLOW AND ITS IMPORTANCE.	
	PRODUCERS CONSUMERS AND DECOMPOSER.	
	BIOGEOCHEMICAL CYCLE-(CARBON, OXYGEN AND NITROGEN CYCLE).	
15	ENVIRONMENTAL MANAGEMENT	
	ECOSYSTEM TYPES AND INTERACTION	
	ENVIRONMENTAL CONSERVATION AND ITS NEED AND OUR SOCIAL RESPONSIBILITY.	
	ACTS RELATED TO CONSERVATION.	
	BIODIVERSITY, HOT SPOTS BIODIVERSITY	
	CLASSIFICATION OF THREATENED SPECIES.	
	WEATHER AND CLIMATE- CHANGES IN WEATHER, METEOROLOGY, INDIAN METEOROLOGICAL DEPARTMENT, MONSOON MODEL AND CLIMATE PREDICTION.	
	SOLID WASTE MANAGEMENT-BIODEGRADABLE WASTE, NON BIODEGRADABLE WASTE, NECESSITY OF SOLID WASTE MANAGEMENT, SEVEN PRINCIPLES OF SOLID WASTE MANAGEMENT, PERIOD REQUIRED FOR DEGRADATION OF WASTE.	
16	DISASTER MANAGEMENT	
	DISASTER(TYPES, EFFECTS, NATURE AND SCOPE).	
	DISASTER MANAGEMENT-FIRST AID TO DISASTER VICTIMS.	
	STRUCTURE OF DISASTER MANAGEMENT AUTHORITY	
	BASIC PRINCIPLE OF FIRST AID	
	OTHER EMERGENCY MEASURES.	
	MOCK DRILL	
17	TOWARDS GREEN ENERGY	
	ENERGY AND USE OF VARIOUS ENERGY SOURCE.	
	GENERATION OF ELECTRICAL ENERGY.	
	PROCESS OF GENERATION OF ELECTRICITY AND ENVIRONMENT.	

SCREENING TEST - 2019 : SYLLABUS - MATHEMATICS

1	ARITHMETIC PROGRESSION	
	NTH TERM OF A.P.	
	SUM OF FIRST N TERMS	
2	QUADRATIC EQUATIONS	
	SOLUTION BY FAETORISTEM	
	NATURE OF ROOTS	
	SUM AND PRODUC OF ROOTS	
	QUBIC EQUATIONS (SUM & PRODUCT OF ROOTS)	
3	LINEAR EQUATIONS	
	ONE VARIABLE, TWO VARIABLES	
	SOLUTIONS OF LINEAR EQUATIONS	
4	PROBABILITY	
	PROBABILITY IN GAMES	
5	PLANE GEOMETRY	
	ANGLES	
	TRIANGLES	
	QUACHILETERAL	
	CIRCLES	
	PARALLEL LINES AND IRANSVERSELS	
6	CO-ORDINATE GEOMETRY	
	DISTANCE FORMULA	
	SECTION FORMULAE	
	CENTRES WITH RESPECT TO TRIANGLES	
7	TRIGONOMETRY	
	TRIGONOMETRY RATIOS	
	TRIGONOMETRY VALUES	
	BASIC IDENTITIES	
	HEIGHTS AND DISTANCES	
8	MENSURATION	
	AREA, SURFACE AREA	
	VOLUEME	
9	POLYNOMIALS	
	ZEROS OF POLYNOMIAL	
	REMAINDER THEOREM	
	FACTORISATION	
	ALGEBRAIC IDENTITIES	
10	RATIO AND PRAPORTIOS	
	PROPERTIES	
	PRAPORTIONALITY	
11	INDICES AND SURDS	
12	NUMBER THEORY	
	NUMBER SYSTEM	
	H.C.F; L.C.M.	
13	STATISTICS	
	MEAN, MODE, MEDIAN	
	RELATION AMONG MANE, MODE, MEDIAN	