

आयुक्तालय, कॉलेज शिक्षा, राजस्थान, जयपुर

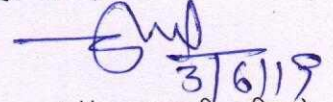
क्रमांक: एफ 7(4)अकाद/आकाशि/2019/87

दिनांक: 3 जून, 2019

प्राचार्य,
समस्त राजकीय महाविद्यालय,
राजस्थान।

आयुक्तालय के पत्रांक एफ.7(4)अकाद/आकाशि/2019/57 दिनांक 31.05.2019. के द्वारा आपको अकादमिक सत्र 2019-20 के लिए दिनांक 01 जुलाई, 2019 से प्रारम्भ हो रही नियमित कक्षाओं के लिए टॉपिकवाइज मासिक समय सारिणी महाविद्यालय स्तर पर तैयार कर विद्यार्थियों के सूचनार्थ महाविद्यालय के सभी प्रतिनिधियों को बिन्दु संख्या 1 से 4 तक निर्देश साझा किये गये थे में बिन्दु संख्या 3 में वर्णित मेल आईडी **jdacad1960j@gmail.com** के स्थान पर **jdacad1960@gmail.com** पढा जावे तथा चाही गई सूचना प्रेषित करें।

साथ ही कोटा विश्वविद्यालय, कोटा के बी.एससी. पार्ट तृतीय का पेपर प्रथम व द्वितीय तथा राजस्थान विश्वविद्यालय, जयपुर के बी.एससी पार्ट द्वितीय का पेपर तृतीय (सभी विषय) के पाठ्यक्रम इस पत्र के साथ संलग्न किये जा रहे हैं। कृपया संदर्भित पत्र एफ. 7(4)अकाद/आकाशि/2019/57 दिनांक 31.05.19 के अनुसार कार्यवाही करें।

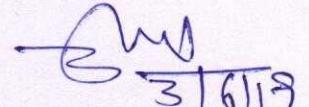


(डॉ० आर.सी. मीना)

संयुक्त निदेशक (अकादमिक)

प्रतिलिपि निम्न को सूचनार्थ -

1. विशिष्ट सहायक, माननीय मंत्री, उच्च शिक्षा, राजस्थान सरकार।
2. निजी सचिव, सचिव, उच्च एवं तकनीकी शिक्षा, राजस्थान सरकार, जयपुर।
3. निजी सचिव, आयुक्त कॉलेज शिक्षा राजस्थान, जयपुर।
4. निजी सचिव, अतिरिक्त आयुक्त, कॉलेज शिक्षा राजस्थान, जयपुर।
5. संयुक्त निदेशक, एचआरडी/निजी संस्थाएं/रूसा/आयोजना/आरवीआरइएस, आयुक्तालय।
6. सहायक निदेशक, क्षेत्रीय कार्यालय, अजमेर, जयपुर, उदयपुर, कोटा, जोधपुर, बीकानेर, भरतपुर कॉलेज शिक्षा को इस कार्य की मॉनिटरिंग हेतु।
7. प्रभारी अधिकारी, कॉलेज समूह, आयुक्तालय जयपुर को निर्देशानुसार प्रति भेज कर लेख है कि अपने सम्बन्धित महाविद्यालयों से सम्पर्क कर इस आदेश की क्रियान्विति सुनिश्चित करें।
8. प्रभारी अधिकारी, नवाचार एवं कौशल विकास प्रकोष्ठ, आयुक्तालय, जयपुर।
9. वेबसाइट प्रभारी को अपलोड/ई-मेल करने हेतु।
10. रक्षित पत्रावली।



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संयुक्त निदेशक (अकादमिक)

	Physics	Chemistry	Mathematics	Botany	Zoology
B.Sc. II, Paper III	Electronics and Solid State Devices Circuit Analysis : Networks some important definitions, loop and nodal equation based on D.C. and A.C. circuits (Kirchhoff's Laws). Four terminal network : Ampere volt conventions, open, close and hybrid parameters of any four terminal network. Input, output and mutual independence for an active four terminal network. Various circuit theorems : Superposition. Thevenin . Norton reciprocity.	Physical Chemistry 1. Definition of Thermodynamic terms: System, Surroundings., etc, Type of systems 2. Intensive and extensive properties , state and path functions and their differentials 3. Thermodynamic process, concept of heat and work 4. First law of thermodynamics : Statement definition of internal energy and enthalpy 5. Heat capacity, heat capacities at constant volume and pressure and their relationship 6. Joule's law, Joule- Thomson coefficient and inversion temperature 7. Calculation of $w, q, \Delta U$ and ΔH for the expansion of ideal gases under isothermal and adiabatic conditions for reversible process 8. Thermochemistry: standard state, standard enthalpy of Formation, Hess's law of heat summation and its applications	Numerical and Vector Calculus Differences. Relation between differences derivatives. Differences of a polynomial. Newton's formulae for forward and backward interpolation. Divided differences. Newton's divided difference, Lagrange's interpolation formulae	General characters of Pteridophytes. Classification (G.M. Smith) Distribution and alteration of generation, Steelar System in Pteridophytes.	Immunology 1. Immunology: Definition, Types of immunity : innate and acquired 2. Humoral and cell mediated, organs of immune system 3. Antigen and Antibody: Antigenicity of molecules, <i>haptens</i> 4. Antibody types 5. Antigen - Antibody reaction: Precipitation reaction, agglutination reaction, neutralization reaction, complement and lytic reactions and phagocytosis



डॉ. आर. पी. शर्मा
 राजस्थान विश्वविद्यालय
 (जयपुर)

CLASS	PHYSICS	CHEMISTRY	MATHS	BOTANY	ZOOLOGY
B.Sc.pt.III (Paper I)	Solid State Physics and Crystal Binding and Crystal Structure : Crystal bonding, ionic bond, binding energy of ionic crystal, determination of the repulsive exponent, covalent bonding, metallic bonding, molecular or Vander Waal's bonding, hydrogen bonding, Space lattice and Crystal structure, reciprocal lattice, Bravis lattice, Miller indices and crystal structure, Spacing of planes in Crystal Lattice.	Inorganic Chemistry 1. Hard and Soft Acids and Bases (HSAB) : Classification of acids and bases as soft and hard 2. Pearson's HSAB concept 3. Acid base strength and hardness and softness 4. Symbiosis 5. Theoretical basis of hardness and softness 6. Electronegativity and hardness and softness	Linear Algebra and Complex Analysis Definition and examples of a vector space, Subspace of a vector space, Linear combination and Linear span, Linear dependence and independence of vectors, direct sums of subspace.	Plant Physiology and Biochemistry Plant water relation : Importance of water to plant life, physical properties of water diffusion and osmosis, absorption, transport of water and transpiration. Mineral Nutrition : Essential macro and micro elements and their role, mineral uptake, deficiency and toxicity symptoms.	Animal Diversity (Vertebrates) and Evolution Cyclostomata and Pisces 1. Origin, ancestry and diversity of vertebrates. 2. Cyclostomata : Classification and characters with suitable examples <i>Petromyzo</i> : General morphology and Ammocoete larva. 3. Pisces-I : Classification and characters with suitable examples; difference between cartilaginous and body fishes; <i>Latimaria</i> , Dipnoans. 4. Pisces-II : General morphology of <i>Scoliodon</i>
B.Sc.pt.III (Paper II)	Nuclear Physics Nuclear Properties: Rutherford's scattering and Nucleus model of atom, Properties of Nuclei, Mass, Charge, Estimation of charge density, size, density, spin, parity, statistics, magnetic dipole moment, Electric Quadrupole Moment, Mass Defect and systematics of Binding energy, Constituents of nucleus, Discovery of neutron and proton-neutron hypothesis, Nuclear potential, Nuclear Force, Liquid drop model, Semi Empirical Mass formula and its applications.	Organic Chemistry 1. NMR Spectroscopy: Nuclear Magnetic Resonance (NMR) spectroscopy, nuclear shielding and deshielding, 2. Chemical shift and molecular structure, 3. spin-spin splitting and coupling constants, areas of signals, 4. Interpretation of PMR spectra of simple organic molecules such as ethyl bromide, ethanol, acetaldehyde, 5. Interpretation of NMR spectra of simple organic molecules such as 1,1,2-tribromomethane, ethyl acetate, toluene and acetophenone. 6. Problems pertaining to the structure elucidation of simple organic compounds using UV, IR and PMR spectroscopic techniques 7. Problems pertaining to the structure elucidation of simple organic compounds using UV, IR and PMR spectroscopic techniques.	Mathematical Statistics and Linear programming Central moments, First four central moments in terms of raw moments and vise-versa. Karl-Pearson's Beta and Gamma coefficients. Measure of skewness and kurtosis. Random experiment. Sample space, Event, Types of events, Probability and Conditional probability of an event. Independent events, Theorems of compound and total probabilities, Baye's theorem and its simple applications.	Ecology and Environment ; Phytoecography Atmosphere (gaseous composition), water (Properties of water cycle), light (global radiation, photosynthetically active radiation), temperature, soil radiation), development soil profiles).	Mammalian Physiology and Immunology Physiology : 1. Digestion : a- Nutrients : Carbohydrates, lipids, proteins, vitamins. b- Digestive enzymes and hormones of GIT c- Digestive mechanism: Mechanical and chemical digestion. d- Absorption and assimilation of end products of digestion. e- Balanced diet, malnutrition (PEM), obesity; endoscopy 2. Respiration : a- Aerobic and anaerobic respiration. b- Structure of respiratory organs. c- Mechanism and regulation of breathing.

Dr. Anil Kumar
(Coordinator)