Notification

No.126/2013 Date : 31/10/2013

Subject :Changes in the syllabi of P.G. Diploma in (i) Mechatronics, (ii) Biomedical electronics**.**

It is notified for general information of all concerned that the authorities of the University has accepted changes/corrections in the syllabi of P.G. Diploma in (i) Mechatronics (ii) Biomedical Electronics to be implemented from the session 2013-14 & onwards in the prospectus of P.G. Diploma in (i) Mechatronics (ii) Biomedical Electronics as given below-

Sr. No.	**Reference in the Prospectus No. 20131246**	**Changes/Corrections/Additions/Deletions/Substitutions in the Prospectus**
01	**P.G.Diploma in Mechatronics** Semester-I Subject : Paper-I Embedded System & Design Page No.7	i) The contents of Unit-II be substituted by the following contents. **"EMBEDDED SOFTWARE ARCHITECTURE:** Round robin - Round robin with interrupts - Function Queue scheduling Architecture - Real time operating systems Architecture - Selecting architecture **REAL TIME OPERATING SYSTEM:** Tasks and Task states - Tasks and Data - Semaphore and shared data - Timer functions - Events - Memory management - Interrupt routines in an RTOS Environment. Design of an embedded system." ii) The present Unit-V be renumbered as Unit-III iii) The present Unit-III & IV be completely deleted and the Unit-IV & Unit-V shall be as under. **"UNIT IV** :**Mechatronics :** Defination, design process, **Closed loop Controllers**: continuous and discrete control processes , Terminology , Two step mode , Proportional mode , Derivative control , Integral control , PID controller , Digital controllers , Controller tuning , velocity control, Adaptive control. **UNIT V**: **Programmable Logic Controller:** Programmable logic controller , basic PLC structure , I/P- O/ P Processing , Ladder programming, Instruction lists ,latching and integral relays , sequencing , timers and Counters, Shift registers, Master and jump controls, data handling." book on Sr.No. 2 be substituted by W Bolten (4th Edition) Mechatronics
02	**P.G.Diploma in Mechatronics** Semester-I Subject : Paper-II Page No.7	The existing "Paper-II : Very Large Scale Integrated Circuit Design" be substituted by the following "Paper-II : Robotics and Applications". **"Paper-II : Robotics and Applications** **UNIT-I :**Introduction to Robotics. Basic robotic parameters- Robot classification based on drive technologies, work envelope, motion control methods & application based. Number of axis, capacity & speed. Reach & stroke, tools & applicators. Work volume, repeatability, precision & accuracy. **UNIT-II :**INTRODUCTION TO TRANSDUCER–Sensors used in Robotics - Function & use of sensors in robotics. Tactile sensors, Micro switches, strain gauges, Non contact sensors – capacitive, inductive and ultrasonic, laser sensors. Temperature transducer 1] Thermocouple, 2] RTD, 3] Thermistor 4] Radiation Pyrometer. Pressure transducer – 1] Piezo-resistive, 2] Bellows. 3] Vibration transducer – seismic transducer, piezo-electric Accelerometer. Displacement & Obstacle sensing, LVDT, Optical diffusion & proxy sensors.

		UNIT-III : Robot Motion Analysis & Control -1] Position representation. 2] Forward and reverse transformation with 2 degrees of freedom specific to Arm rotation. 3] Composite homogeneous transformation. 4] Screw transformation. 5] Link coordinate & arm matrix. Robot End Effectors - Types & function of gripper. Study of magnetic vacuum and mechanical grippers. Design and function of different type of end effectors, Tool as end effectors. Gripper specification & design consideration. **UNIT-IV :**Pneumatics & Hydraulics Valves, Actuators, Motors. Pneumatic & Hydraulic circuits. Pneumatic & Hydraulic motion control. **UNIT-V :**Robot Applications- Material handling, process operation and inspection, machine loading and unloading, spot & arc welding. Spray painting, marine applications, laser cutting, future applications. ” **Text Books:** 1. Automation and Robotics by Miltiadis A. Roboulos 2. Industrial Robotics: Theory, modelling and Control by Sam Cubero 3. Advances in Robot Manipulator by Ernest Hall 4. Robot Builder’s Bonanza 4@ by Gordon McComb, MykePredko present text books and references be deleted.

Sr. No.	Reference in the Prospectus No. 20131246	Changes/Corrections/Additions/Deletions/Substitutions in the Prospectus
03	**P.G.Diploma in Mechatronics** Semester-I Subject : Paper-IV Page No.8	The existing “Paper-IV : Electronics Manufacturing Technology” be substituted by the following “Paper-IV : Process Control”. “**Paper-IV : Process Control** **UNIT-I :**Physical parameters involved in Process control Level, Flow, Temp. & Pressure. Sensors used in sensing process parameters. Contact &Non contact type level sensors. Flow sensors – Orifice, Ventury, Optical, Electromagnetic, Turbine type, Ultrasonic. Pressure sensors – Piezo electric, Temp. Sensors- RTD, Thermo-couple, Thermistor & Radiation type. Differential Pressure transmitters, Square root extractor **UNIT-II :**Monitoring & Display system - Analog & Digital meters. Multi range & Multi-parameter meters. Power Analyzers, Bar graphs & graphical displays. **UNIT-III :**Non electrical Measurement system. Rotameter, Nozel&pitot tubes, Manometers, Float type & Air purge method of level measurement. Bimetalic thermometers, mercury/ Alcohol in glass thermometers **UNIT-IV :**Open loop & Close loop (Feed-back) control systems. On-OFF & Linear control. Proportional control, P-I Control PID control. Process tuning (Ziglar-Nicolus& Quarter wave method) Multi-loop control systems (Ratio & Cascade control). **UNIT V :**Process Automation. Analog & Digital Control. Discrete Digital control, PC interface, ADC & DAC, PLC based automation. Distributed control system. Different languages of PLC programming. Human Machine Interfacing. SCADA. Wireless Industrial communication. Process plant , Batch process reactor & 3 term Boiler automation.” **Text Books:** 1. Fundamental of Industrial Instrumentation and Process Control by Willium C. Dunn 2. Process equipment Malfunction by Norman P. Liberman 3. Fundamentals of ProgrammableLogic Controllers, sensors and communication by John Stenerson

		4. Data Communication for Instrumentation and control by John Park, Steve Mackay, Edwin Weight
04	**P.G.Diploma in Biomedical Electronics** Semester-I Subject : Paper-IV Page No.13	The existing "Paper-IV : Principles of Communication" be substituted by the following "Paper-IV : Biomedical Instrumentation". "**Paper-IV : Biomedical Instrumentation** **Unit I**: Fundamentals of Biomedical Instrumentation: Basic medical instrumentationsystem , Performance requirements of Medical Instrumentation System, Intelligent Medical Instrumentation System, biometrics. **Unit II**: Bioelectric Signals and Electrodes: Origin of Bioelectric signals , Recording Electrodes , Silver- Silver Chloride Electrodes , Electrodes for ECG , EEG and EMG. **Unit III**: Biomedical Recorders: Electrocardiograph (ECG), vectorcardiograph (VCG) , Phonocardiograph (PCG), Electroencephalograph (EEG) , Electromyograph (EMG) ,cardiac pacemakers . **Unit IV**: Magnetic Resonance Imaging System : Principles of NMR Imaging System , Image Reconstruction Techniques , Basic NMR Components , Biological Effect of NMR Imaging , Advantages of NMR , Imaging System ,principle of MRI. **Unit V**: Radio-therapy Equipment : Use of high voltage X-ray Machines , Development of Betatron , Cobolt-60 Machine , Medical Linear Accelerator Machine , X-ray tomography, short wave , micro-wavand surgical diathermy. " **Text Book:** R. S. Khandpur (2nd Addition) (McGraw Hill publication) : Biomedical Instrumentation

Sd/-
(J.D.Wadate)
I/C.Registrar
SantGadge Baba Amravati University

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SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE
Official Publication of Sant Gadge Baba Amravati University
PART-TWO

(Extra-Ordinary)
Saturday, the 2nd November, 2013
Notification

No. 127/2013 Date : 02/11/2013

Subject : Regarding grant of Earned Leave to the Vice-Chancellor

It is notified for general information that the Hon'ble Chancellor of the University has granted Earned Leave to Dr. Mohan Khedkar, Vice-Chancellor, Sant Gadge Baba Amravati University on personal grounds for 32 days, from 28th October to 28th November, 2013 with permission to leave the University headquarters.

The Hon'ble Chancellor has appointed Dr. J.A. Tidke, Pro-Vice-Chancellor, Sant Gadge Baba Amravati University, to act as Vice-Chancellor of the Sant Gadge Baba Amravati University during the leave period of Dr. Mohan Khedkar, Vice Chancellor, from 28th October, 2013 till he returns from the leave and resumes his duties as Vice-Chancellor.

Sd/-
(J.D.Wadate)
I/C.Registrar
Sant Gadge Baba Amravati University

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SANT GADGE BABA AMRAVATI UNIVERSITY GAZETTE
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PART-TWO

(असाधारण)
मंगळवार, दिनांक १२ नोव्हेंबर, २०१३
अधिसूचना

क्रमांक : १२८/२०१३ दिनांक :१२/११/२०१३

विषय : महाराष्ट्र राज्य माध्यमिक व उच्च माध्यमिक शिक्षण मंडळ, पुणे यावर सदस्य म्हणून निवड

महाराष्ट्र राज्य माध्यमिक व उच्च माध्यमिक शिक्षण मंडळ अधिनियम, १९६५ मध्ये कलम ५(१) वर्ग-ब (एक) अंतर्गत महाराष्ट्र राज्य माध्यमिक व उच्च माध्यमिक शिक्षण मंडळावर सदस्य म्हणून राज्यातील प्रत्येक विद्यापीठाच्या विद्वत परिषदेने प्रतिनीधी निवडून देण्याची तरतूद आहे.

वरील तरतूदीच्या अनुषंगाने सध्या महाराष्ट्र राज्य माध्यमिक व उच्च माध्यमिक शिक्षण मंडळावर रिक्त असलेल्या जागी संत गाडगे बाबा अमरावती विद्यापीठाच्या विद्वत परिषदेने दिनांक ३१ ऑगस्ट, २०१३ रोजी भरलेल्या सभेमध्ये विद्वत परिषदेचे सन्माननिय सदस्य **डॉ.एफ.सी.रघुवंशी, अप्पु कॉलनी, राठी नगर, अमरावती** यांची संत गाडगे बाबा अमरावती विद्यापीठाचे प्रतिनिधीत्व करण्याकरीता महाराष्ट्र राज्य माध्यमिक व उच्च माध्यमिक शिक्षण मंडळ, पुणे यावर सदस्य म्हणून निवड केली आहे असे सर्व सामान्यांच्या माहितीकरीता अधिसूचीत करण्यात येत आहे.

स्वा/-
(जे.डी.वडते)
प्र.कुलसचिव
संत गाडगे बाबा अमरावती विद्यापीठ

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