NOTIFICATION

No. 95/2015 Date : 9/07/2015

Subject : Ceasation of membership of Dr.K.P. Sarawadekar on the Board of Studies in Electronics, Industrial Electronics & Applied Electronics.

It is notified for general information of all the concerned that the membership of Dr. K.P.Sarawadekar of Xylinx India Technology Services Pvt. Ltd. Hyderabad acquired on the Board of Studies in Electronics, Industrial Electronics & Applied Electronics under provision of clause (d) of sub section (3) of Section (37) of the Maharashtra Universities Act, 1994 has been ceased in accordance with the provision of Section 43 of the above mentioned Act, as he has been joined as Assistant Professor in I. I. T., Banaras Hindu University, Varanasi on 19/11/2014.

By virtue of his membership on the Board of Studies, membership acquired by him on other authorities of the University shall also stand ceased.

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Registrar.
Sant Gadge Baba Amravati University

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NOTIFICATION

No. 96/2015 Date :- 9 /07/2015

Subject :- Chances for the Old Course subjects of B.E. (Information Technology) (CGS) in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the authorities of the University has decide to provide additional chances for the failures of old course failure students of B.E. Semesters VII & VIII (Information Technology)(C.G.S.) as shown below :-

Sr. No.	Semester & name of Subject B.E.(Information Technology)	Chances be given to the students up to
1.	B.E.Sem. VII Object Oriented Analysis & Design	Two additional chances i.e. Winter- 2015 & Summer – 2016 and thereafter be absorbed into new syllabus.
2.	B.E.Sem. VIII (Prof.Elect.-II) (i) Data Warehousing & Data Mining	Three additional chances i.e. Winter- 2015, Summer – 2016 and Winter-2016 and thereafter be absorbed into new syllabus.

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NOTIFICATION

No. 97/2015 Date :- 9 /07/2015

Subject :- Continuation of Prospectus No. 11171 prescribed for Semester I & II of B.E.(all branches) /B.Text.E. /B.Tech. (Chem. Engg.),/ B.Tech.(Chem.Tech.) (Polymer)(Plastic) in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 11171 prescribed for Semester I & II of B.E.(all branches) /B.Text.E./B.Tech.(Chem.Engg.), B.Tech.(Chem.Tech.) (Poly.)(Plastic) for the session 2010-11 and continued for the sessions 2011-12, 2012-13, 2013-14 and 2014-15 shall be continued for the academic session 2015-2016 with following deletion:-

Sr.No.	Reference in Prospectus No.	Deletion
1.	Prospectus No. 11171 Sem. I & II B.E./ B.Text.E. / B.Tech. (Chem.Engg.)/B.Tech.(Poly)(Plastic) **Subj- 1A4- Engineering Drawing** Unit – II Page No.6	In Unit No. II under the sub-titles b) the sentences given in bracket “(inclined to one plane at a time)” and c) “(Inclined to both the planes)” be deleted.

Sd/-
Registrar,
Sant Gadge Baba Amravati University

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NOTIFICATION

No. 98/2015 Date :- 9/07/2015

Subject :- Continuation of Prospectus No. 121741 prescribed for Semester III & IV B.E. in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 121741 prescribed for Semester III & IV B.E. (Civil, Mechanical, Electrical(E & P), Electrical & Electronics, Electrical (E & P), Electrical, Electronics & Telecommunications, Electronics, Instrumentation, Computer Sci. & Engg., Computer, Information Technology) for the session 2011-12 and continued for the sessions 2012-13, 2013-14 and 2014-15 shall be continued for the academic session 2015-2016 with following additions /deletions/ substitutions/revised syllabi:-

Sr. No.	Reference in Prospectus No. with Name of Branch & subject	Addition/deletion/substitution/revised syllabi
1.	Prospectus No. 121741 (**Sub- 3ME03 Fluid Power- I)**	On page No. 21**, in Unit No. I,** at Sr. No. 2 in 2nd line, the words "forces on plane and curve surface buoyancy" be deleted and the words "Hydrostatic pressure forces on plane & curved surfaces" be added after the word "manometers". On Page No. 22**, In Unit No.II** the words "Eulers equation after Bernaullis Equation, orificemeter and pilot tube after venturimeter" be added after the words "Vortex motion" at last. **In Unit No. V**, in line No.1, the words" Friction charts and its use" be deleted. **In Unit No.VI**, at Sr.No.2 in Line 1, the words" Eulers equation" before the words Hydrodynamic Machines be deleted.
2.	**Sub - 3ME04 Engineering Thermodynamics**	**In Unit No. III** at Line No.1 on Page No.23**,** the words **"**Application of first law to flow processes W.D. and H.T. during steady flow processes and variable flow processes" be added before the words "First Law". On Page No.24**, In Unit No.VI b**) in line No.1 the words "Vapour Cycles" and the words given in bracket "(No numerical on this unit)" be deleted. In Line No.2, the words "Joules cycle" be replaced by the words "Joules Brayton cycle". On Page No. 24 in the list of **Text Books**, the words "Engineering Thermodynamics' by Yunus A. Cengel and Boles, TMH" be added at Sr.No.3.
3.	**Sub -3ME05 Manufacturing Process- I**	**In Unit No. II at** on Page No. 24**,** the words "Defects in ------ penetrant test" of the **whole Para No.2** be shifted in Unit No.3 at Line No.1 before the words "Casting Processes and" . On Page No.25 **in Unit No. III** at Line No.2, the words "Die casting - - - - of Foundries" be shifted from Unit III to Unit No. II at Para No.2 . **In Unit No. V** the words "Submerged arc welding" be added after the words "transfer processes" at the end. **In Unit No. VI** at line No.1, the words "Submerged arc welding" be deleted. Under the title, **Books recommended, Text Books**, the words "Workshop Technology' (Manufacturing Processes) by S.K. Garg" be added at Sr.No. 3 and the words "Production Technology' by P.C. Sharma" be added at Sr. No. 4. Under the title **References**, the words "'Production Technology' by R.K. Jain" be added at Sr.No.5 after Sr.No.4
4.	**Sub - 3ME08 Manufacturing Process- I – Lab.**	On Page No. 27, Sr.No.1 Under the title **3ME08 Manufacturing Process- I- Lab. At Sr.No. 1,** the words "Study of safety precautions in workshop practices" be substituted by the words "TIG, MIG welding on composite welding job". At.Sr.No. 2, the words "Casting 1 job" be substituted by the words "Demonstration on casting processes" at last. At Sr.No. 4, the words "One Job on mechanical working of metals like piercing/ drawing/ bending/ embossing/ spinning/ upsetting etc." be added after Sr.No.3

5.	**Sub- 4ME02 Engineering Metallurgy**	On Page No. 28, **In Unit No. I, ,** at line No. 4, the words "Formation of alloys" and in line No.5 the words "lever rule for phase mixtures" be deleted and the words "Miller Indices" be added at last before the words "dendritic solidification". **In Unit II** in line No.1, the words "Lever rule for phase mixtures" be added after the words "invariant reaction". Under the title, **Books recommended : Text Books**, the words "Engineering Metallury' by O.P. Khanna" be added at Sr.No.3 after Sr.No.2 on Page No.29.
6.	**Sub- 4ME03 Energy Conversion- I**	On Page No. 30, i**n Unit No. I,** the words "Vapour power cycle: Rankine & Modified Rankine cycle" be added before the words "various calorimeters" at the end.
7.	**Sub- 4ME05 Machine Design & Drawing - I**	On Page No. 32, i**n Unit No. I,** under the title **4ME05 Machine Design & Drawing – I,** in line No.2**,** the words "Sectional views with different types of projections" be deleted and the words "Reproduction of missing or orthographic views" be added at the last. **In Unit II b)** in Line No.2, the words "cone & cylinder" be deleted. On Page No. 33, **In Unit No. III -c**) in Line No.1, the words " drawing of riveted joints" , in Unit No.III-d), the words "Welded joints - Symbolic representation" and , in Unit No. III-e), the words "drawing of Knuckle Joints" be deleted. Under the title, **Books recommended: Text Books** at Sr.No. 1, the words "Engineering drawing' by N.D. Bhatt, Charator Publication" be deleted and under the title **Reference Books**, the words & figures "7) 'Engineering drawing' by N.D. Bhatt, Charator Publication" be added.
8.	**Sub- 4ME10 Machine Design & Drawing – I - Lab**	On Page No. 35, in Sr.No. 7, the words "Design and drawing of fly wheel be substituted by the words"Design and drawing of riveted joints" and at Sr.No.5, the words "or knuckle" be added after the words "of cottor". The words & figures **"**Any one practical from 5) and 7) should be performed on CAD software" after the words "Any one Practical" after S.No.8.
9.	**Sub- 3XT5/XN5 Electronics Devices & Components (B.E. Sem. 3 (Extc & Tele.)**	On Page No.56 & 57, the old syllabus of the subject 3XT5/XN5 Electronic Devices & Components of **B.E. Sem. III(Extc.)** is replaced by the revised syllabus which is attached herewith vide"Appendix-A".
10.	**Sub- 4XT2/4XN2 Electronics Devices & Circuits – I (B.E. Sem.-IV- Extc)**	On Page No. 59 & 60, the old syllabus of the subject 4XT2/4XN2 Electronic Devices & Circuits-I of **B.E. Sem. IV (Extc.)** is replaced by the revised syllabi which isattached herewith vide "Appendix-B".
11.	**Sub- 3IT04 Electronic Devices & Ckts. (B.E. Sem. III (I.T.)**	On Page No. 96 & 97, the old syllabus of the subject 3IT04 Electronic Devices & Circuits of **B.E. Sem. III (I.T.)** is replaced by the revised syllabi which is attached herewith vide "Appendix-C".
12.	**Sub- 3IT05 Assembly Language Programming**	On Page No. 97 & 98, the old syllabus of the subject 3IT05 Assembly Language Programming of **B.E. Sem. III (I.T.)** is replaced by the revised syllabi which is attached herewith vide "Appendix-D".

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Appendix-A

3XT05/3XN05 ELECTRONICS DEVICES AND COMPONENTS

SECTION A

Unit I: Construction, specifications, application, selection criteriaand failures of Resistors: Fixed type, Variable Type, Network and Chip type Capacitors: fixed and variable type.(6)

Unit II: Switches & Relays: Types, Construction and Testing Fuses, Cables and Connectors: Types, Construction, Specification and Application Introduction to Heat sink, Choke and Transformer (7)

Unit III: Basics of Electronic Component layout, PCB material, Properties and specifications, Basic manufacturing process of PCB, Soldering and De-soldering Techniques. (6)

SECTION B

Unit IV: P-N Junction diode theory- V-I Characteristics, Temperature dependency, Diode Resistance, Zenerdiode: characteristics, Avalanche &Zener breakdown, testing of diode using Ohmmeter and CRO. (7)

Unit V: Theory, Construction, Characteristics and application of Tunnel, Varactor, Shottkey diode Opto-Devices: LED, Photo Diode, and LCD. (6)

Unit VI: Theory of PNP and NPN Transistor, Transistor Configurations, Their Characteristics and current Components. Transistor as an amplifier, Testing of Transistor using Ohmmeter and CRO. (7)

Text Books:

1. Maduri Joshi, " Electronic Component and Material" 3rd Edition, Shroff Publication
2. Millman H Halkies, "Integrated Electronics" TMH Co. New Delhi

References:

1. Bosshart, "Printed Circuit Board" TMH
2. David Bell' "Electronic Devices and Circuits" Oxford University Press, 2010
3. Boylestad R, "Electronic Devices and Circuits" Prentice Hall of India Pvt. Ltd. New Delhi.

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4XT 02/AXN02 ELECTRONIC DEVICES AND CIRCUITS -II

SECTION-A

Unit I : Rectifiers: Half wave, full wave and bridge rectifiers and their analysis. Filters: Analysis of capacitor filter, Theory of L, LC& CLC (pi) filter, Zener diode as a Voltage regulator. (6)

Unit II : DC load line and operating point (Q point); Methods of biasing & stability factor; ac equivalent circuit and hybrid model analysis of CE configuration. (7)

Unit III : Feedback Amplifier and Oscillator: Classification of amplifier: Voltage current, trans-conductance, Trans-resistance amplifier, feedback concept, effect of negative feedback in amplifier, Methodology of feedback in amplifier and analysis.Oscillators:Barkhausen's criterion for sustained oscillations; study of Harley, Collpit, RC oscillators and crystal oscillator. (7)

SECTION-B

Unit IV : Study of multistage transistor amplifier circuit (6)
i) RC coupled amplifier,
ii) Transformer coupled amplifier,
iii) Direct coupled amplifier,
iv) Emitter follower; Darlington emitter follower, Bootstrapping principle,
v) Cascade stage.

Unit V : Power Amplifier: Transformer coupled Class A amplifier, Transformer coupled Class B amplifier & transformer coupled Class AB amplifier, capacitor coupled and direct coupled output stages, modifications to improve power amplifier performance, Class C amplifier and analysis. (6)

Unit VI : JEET: Theory, Construction and Characteristics; parameters (μ, gm&rds); Biasing of JEET amplifiers, MOSFET: Theory, Construction and Characteristics of enhancement & depletion type MOSFET UJT: Theory, Construction and Characteristics; UJT as relaxation oscillator. (7)

Text Books:

1) David Bell: Electronic Devices and Circuits, Oxford University Press, 2010.
2) Milliman H. and Halkies: Integrated Electronics, Tata McGraw Hill, New Delhi.

Reference Books:

1) MottersheadAllen: Electronics Devices & Circuits, Prentice Hall of India Pvt. Ltd., New Delhi, 1986
2) Boylestad R. : Electronics Devices & Circuits, Prentice Hall of India Pvt. Ltd., New Delhi, V Edi. 1993
3) Ramanan K.V.: Functional Electronics, Tata McGraw Hill, New Delhi, 1989
4) Milliman S., Taub H and Halkies : Electronics Devices and Circuits, McGraw Hill Int. Co., Auckland, 1982

Appendix-C

(Syllabi recommended by the B.O.S. for B.E. [illegible])

3IT04 ELECTRONIC DEVICES AND CIRCUITS

UNIT I:
Semiconductor Diode: Forward & reverse resistance, PIV, HWR, FWR, BR, and Comparison. Filter circuits. Capacitive, inductive & π filter. Voltage stabilization, Zener diode, characteristics. LED, 7segment displays photodiodes, their principle of operation & application.

UNIT II:
Transistor: BJT basic principle, BJT connections, CB, CE & CC. Input- Output characteristics, amplification factor. The CE amplifier (Simple analysis), DC load line, Operating point, Stability Factor. Transistor biasing circuits, base resistor method, biasing with feedback resistor, voltage divider method. FET basic principle

UNIT III:
RC Oscillator: Basic principle, Barkhausen criterion phase shift oscillator, Wein – Bridge oscillator, Crystal oscillator, Transistor as a switch.
Introduction to P-spice: Introduction to PSPICE, Input files, element values, nodes, sources, type of analysis, output variables, output commands, output files, types of output. Finding node voltages & currents.

UNIT IV:
Operational Amplifier: Block diagram of op-amp, Differential amplifier, DC analysis, constant current source, DC level shifting, Op-Amp parameters, transfer characteristics, study of IC uA741. Inverting & non-inverting amplifier

UNIT V:
Linear & non-linear applications of Op-Amp: Voltage follower, Summing amplifier, Subtractor, Integrator, Differentiator, Comparator, Zero crossing detector, 3 pin IC Voltage regulator 78XX, 79XX series.

UNIT VI:
Timer & PLL: Block diagram of IC 555, application of Timer IC 555 as Astable, Monostable multivibrators, Phase Locked Loop (PLL): Operation of phase locked loop system, transfer characteristics, lock range, capture range.

Practical: - Minimum 8 experiments based on above syllabus. At least two experiments must be conducted using PSPICE.

Books Recommended:-
TEXT BOOKS:

1. N.N.Bhargava, D.C.Kulshreshtha, S.C.Gupta: Basic Electronics & Linear circuits, (TTTI)
2. M.H. Rashid: SPICE for circuits & electronics Using PSPICE (PHI)
3. Gayakwad R.A.: Op-Amps & Linear Integrated circuits (PHI)

REFERENCE BOOKS:

1. Millman & Halkins: Electronics Devices & Circuits (MC Graw Hill)
2. Bell : Electronic Devices & Circuits, Fifth Edition (OXFORD Publication)
3. S Salivahanan: Electronic Devices & Circuits, Third Edition (MC Graw Hill)
4. K.R.Botkar: Integrated circuits (Khanna Publications)
5. D.Roy Choudhury & Shail Jain: Linear Integrated circuits (NAIL)

Appendix - D

3 IT 05 ASSEMBLY LANGUAGE PROGRAMMING

Unit I: Introduction to Number system (Decimal, Binary, Hexadecimal), Microprocessor 8086 architecture-BIU and EU, pin configuration, Software model of 8086 microprocessor. Memory addresses space and data organization. Data types. Segment registers, memory segmentation. IP & Data registers, Pointer, Index registers. Memory addresses generation, Maximum and Minimum Modes.

Unit II: 8086 Instruction set overview, addressing modes. 8086 instruction formats. 8086 programming: Integer instructions and computations: Data transfer instructions, Arithmetic instructions and their use in 8086 programming.

Unit III: 8086 Instructions, Logical instructions. Shift and rotate instructions and their use in 8086 programming. 8086 flag register and Flag control instructions, compare instruction, control flow and jump instructions, Loops & loop handling instructions. 8086 programming using these instructions.

Unit IV: Stack and Subroutines, 8086 stack segment and stack related instructions. 8086 I/O Address space. Subroutines and related instructions, Parameter passing, Concept of Macros, Status saving on stack. Concept of recursion at assembly program level. 8086 Programming using subroutines, recursion and macros.

Unit V: 8086 I/O, Types of input output, isolated I/O interface, input output data transfers, I/O instructions and bus cycles. Programmable Peripheral Interface 8255 PPI: pin diagram, internal organization, modes of operation.

Unit VI: 8086 Interrupts, Interrupts types, priority and instructions. Interrupt vector table, External hardware-interrupt interface signals & interrupts sequence. Software interrupts, Non-maskable interrupts. Programmable Interrupt Controller 8259: pin diagram, internal organization, modes of operation. Introduction to Intel's 32-bit processors

Text Book:

1. Avtar Singh & Walter A. Triebel: The 8088 and 8086 Microprocessors, Programming, Interfacing, Software, Hardware, and Applications, PHI, 2003.

References:

1. Barry B. Brey : The Intel Microprocessor Architecture, Programming & Interfacing (6/e)(PHI)
2. John P Uffenbeck, "8086/8088 Families: Designing, Programming and Interfacing". Prentice Hall
3. D. V. Hall: Microprocessors and Interfacing, TMH.
4. K.M Bhurchandi, "Advanced Microprocessor and Peripherals Architecture, Programming and Interfacing", Tata Mc Graw Hill, 2006.

NOTIFICATION

No. 99/2015 Date :- 9/07/2015

Subject :- Continuation of Prospectus No. 131741 prescribed for Semester V & VI B.E./B.Arch. in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 131741 prescribed for Semester V & VI B.E. (Civil, Mechanical, Electrical(E & P), Electrical & Electronics, Electrical (E & P), Electrical, Instrumentation, Information Technology, Biomedical Engg.) /B.Arch. for the session 2012-13 and continued for the sessions 2013-14, 2014-15 shall be continued for the academic session 2015-2016 with following addition /deletion/ substitutions/ revised syllabi:-

Sr. No.	Reference in Prospectus No. with name of Br. & subject	Addition/deletion/substitution/revised syllabi
1.	Prospectus No. 131741 Sem. V & VI B.E.(Mechanical) **Sub- 5ME02 Heat Transfer** **Page No. 36**	On page No. 36**, in the list of Reference Books,** the words "Fundamentals of Heat & Mass Transfer' by Frank P. Incropera & Devid P. Dewitt, Wily Publication." be added after Sr.No.3.
2.	**Sub- 5ME03 Measurement Systems**	On page No. 37**, in Unit III**, the words "Resistance, stain gauge, Mechanical Gauges viz. Diaphragm & elastic pressure elements" be added at Sr.No.1 before the words "Types of strain gauges". At Sr.No.2 in line No.2,the words "Manometers, transducers, elastic, gravitational elastic draft strain gauge pressue cell" be deleted and in Line No.4, the words "Krudsen" be substituted by the words "Knudsen gauge". **In Unit IV** at Sr.No.3 the words "Dall tube, Yaw tube anemometer, positive displacement flow meter" appearing in line No.1 be deleted and the words "Current meter, hot wire anemometer" be added at last after the words "electro-magnetic flow meter". **In Unit V** at Sr.No.1 the words "Optical Pyrometer" be added at last. At Sr.No.2, in Line No.3, the words "pubbler or Page system" be replaced by the words "Bubbler or purge system" On page No. 38, in the list of **Text Books,** at Sr.No.2, the words "Metropolitan Book Co.Pvt.Ltd." be added after the words "By D.S.Kumar". In the list of **Reference Books,** the words " Instrumentation Handbook be added at Sr. by G.K. Noltingh" No.4 after Sr.No.3.
3.	**Sub- 5ME04 Theory of Mac.-I**	On page No. 38**, in Unit I Sr. No. 2,** in Line No. 1**,** the words "Kinematic analysis of mechanisms, coupler curves and their properties, radius of curvature of coupler curves" be deleted and the words "Transmission angle & mechanical advantage of 4-bar mechanism" be added in that place. **In Unit III**, in line No.3, the words "and four position synthesis" be deleted. **In Unit IV**, in line No.4, the words "& calculation of leading dimensions" be deleted. On page No. 39, in the list of **Text Books**, the words "Theory of Machines' by S.S. Ratan, Tata McGraw Hill" at Sr.No.1 be deleted. In the list of **Reference Books**, the words "Theory of Machines & Mechanism' by P.L. Balaney, Khanna Publishers" be added after Sr.No.3 and the words "Theory of Machines' by S.S. Ratan, Tata McGraw Hill" be added after Sr.No.6.
4.	**Sub- 5FEME05 (Free Elect.-I) (3) Production Management**	On page No. 42, in **Unit II** at Sr. No.2 Line No.4**,** the words "Facility payout planning" be substituted by the words "Facility layout planning". **In Unit III**, In Line No.4, the words "capacity strategies" be substituted by the words "Strategies for modifying capacity". **In Unit IV**, in line No.5.the word "loading" be substituted by the word "loadings". **In Unit V**, in Line No.2, the words "Costs modeling" and in Line No. 4 the words "just in time manufacturing" be deleted. The words in line No.1 & 3 "Inventory Control" be replaced by the words "Inventory costs" and the words "Inventory models" be substituted by the words "Inventory modeling". **In Unit VI**, in Line No.2, the words "Taguchi's off-line quality control methods" be deleted.

5.	**Free Elective-I (4) Project Mgmt.**	On page No. 43**, in Unit I** Line No.4**,** the words “Analysis under high certainty project proposals” be deleted. **In Unit II**, in line No.1 the words “Organizational form” be substituted by the words "type of organization structure" and the words “Types of conflict function of organization” be added at last. **In Unit III**, the words “improving the process of cost estimation” be deleted and the words “Project life cycle phases Break even analysis, sensitivity analysis” be added at last. **In Unit IV**, the words “resource constraints” in Line No. 2 be deleted and the words “managing project resource flow” be added at last. In Unit V, the words “Project audit” in Line No. 3 be deleted. **In Unit VI**, the words “Multicultural issues” in Line No. 1, “conflict zones in project management” in Line No. 2 and the words “managing project resources flow” in Line No. 3 be deleted and the words “Project proposals, project audit” be added at last in Unit No.VI.
6.	**Sub- 6ME01 Fluid Power-II**	On page No. 46**, in Unit III Sr. No. 3 in** Line No.7**,** the words “Balance equation in cartesian and cylindrical polar co-ordinates” be deleted. On page No. 47, in the list of **Reference Books,** the words “Fluid Mechanics’ by Yunus Cenjel, John Cimbala, TMH.” be added at Sr.No.5.
7.	**Sub- 6ME02 Comp.Software Applcns**	On page No. 47**, in Unit I** in Line No.3**,** the words “Database design, object based and semi structured databases, data storage and querying, data mining and analysis” be deleted. **in Unit II** in Line No.2**,** the words “Entity relational design issues, Extended E-R features, other aspects of database design the unified modeling languages” be added. In line No.2, the words “Additional relational algebra operation, extended relational algebra operation” be deleted and be added in Unit No. III. **In Unit V**, the whole Unit i.e. the words “Relational Database Design: Features of good relational design, atomic domains and first normal forms, decomposition using functional dependencies, functional dependency theory, decomposition using functional dependencies, decomposition using multi valued dependencies, more normal forms, database design process, modeling temporal data” be deleted and the words “Artificial Intelligence: Introduction to AI, its definition and scope, Knowledge based approach, concept of expert system (ES), Characteristics of ES, Elements of ES, Application and domains of ES” be added in place of deleted portion. On page No.48**, in the list of Text Books**, the words & figures “3. ‘Artificial Intelligence and Expert System’: D.W. Patterson, PHI, 1992” be added at Sr.No. 4 and in the list of **Reference Books**, the words “Database Management System express learning ITL education solution limited publication” be added at Sr.No. 4.
8.	**Sub- 6ME03 Control System Engg.**	On page No**. 48, in Unit IV** in Line No. 3**,** the words “systems with transportation lag” be deleted. **In Unit VI**, in Line No.2, the words “Analysis of performance characteristics” be deleted.
9.	**Sub- 6ME04 Theory of Machines - II**	On page No. 50, **in Unit IV,** the total part of Sr.No.2**, i.e.** the words “Transverse vibrations--- --Dunkerley’s Method be deleted and the words “Torsional Vibration, Single rotor system, two rotor system, three rotor system, geared system” of Sr.No.1 and the words “whirling of shaft and critical speed” of Sr.No.2 of Unit V be added in Unit No. 4. **In Unit V**, the total part of Sr.No.2 **of Unit No.4** i.e. the words “Transverse vibrations--- -Dunkerley’s Method” be added and the words “Torsional Vibration, Single rotor system, two rotor system, three rotor system, geared system” of Sr.No.1 and the words “whirling of shaft and critical speed” of Sr.No.2 of Unit V be deleted from Unit 4. **In Unit VI**, in Line No.3, the words “Balancing of single cylinder, multi-cylinder and radial engines” be deleted. In the list of **Text Books,** the words “Theory of machines & mechanism by P.L. Balaney, Khanna Publishers” be added at Sr.No. 4 and the words & figures “1) Theory of Machines by S.S. Ratan, Tata McGraw Hill. be deleted and in the list of **Reference Books**, the same i.e. the words ”Theory of Machines by S.S. Ratan, Tata McGraw Hill” be added at Sr.No.6.
10.	**Sub- 6FEME05 (F.E.-II) (1) Automobile Engineering**	On page No.51, **in Unit II,** in Line No.3**,** the words “MPFI, CRDI” be deleted. **In Unit No. 4, Under Section-B**, the words ”Clutch troubles and remedies” of Line No.2 and the words “Hotchkiss drive, torque tube drive” of Line No.4 be deleted. **In Unit 5**, the words “types of linkages” of Line No.2 and the words “steering gear ratio” of Line No.3 be deleted.

11.	(2) **Non Conventional Energy Syst.**	On page No.52**, in Unit I,** the words "Measurement of solar radiation by pyranometer & pyrheliometer, sunshine recorder" be added at last. **In Unit No. V,** Under Section-B, the words "Pyrolysis, Gasifiers types & classifications" of Line No.4 be deleted. On page No. 53, **In Unit VI**, the words "methods like vapour dominated water dominated" in line No.5 be deleted and the words "Fuel Cells: H_2O_2 type" be added at last. In the list of **Reference Books,** the words "Non Conventional Energy Utilization' by R.K. Rajput" be added at Sr.No.5.
12.	**Sub- 5IT02 Dig. Int. Circuits** **5IT09 Comp. Lab- III (VC++)**	On page No. 81, the old syllabus of the subject 5IT02 Digital Integrated Circuits of **B.E. Sem. V (I.T.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-A". On page No. 86, Under the title **5IT09 Comp. Lab- III(VC++),** the word **"VC++"** be replaced by the words **"PHP based practicals".**
13.	**Sub- 6IT02 D.B. M. System** **6IT08 Comp.Lab-IV(UML)**	On page No. 87 & 88, the old syllabus of the subject 6IT02 Database Management System of **B.E. Sem. VI (I.T.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-B". On page No. 90 (b), Under the title **6IT08 Comp.Lab-IV(UML),** the words **"CLAB-IV(UML)"** be replaced by the words **"CLAB-V(Content Management System)".**

Sd/-
Registrar,
Sant Gadge Baba Amravati University

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Appendix-'A'

5 IT 02 DIGITAL INTEGRATED CIRCUITS

Unit-I : Review of Boolean Algebra, Boolean Functions & Logic families: Canonical & standard forms. Digital Logic Gates, Digital Integrated Circuits: Special characteristics like fan-out, power dissipation, propagation delay & noise margin. Bipolar transistor characteristics. TTL, ECL, MOS and CMOS families: Basic circuits, operation and typical characteristics.

Unit-II: Simplification of Boolean functions: The K-Map method, Two Variable, Three-Variable, Four-variable & Five-variable K- map, Implementation using logic gates. Tabulation method, Determination of prime implicants. Selection of Prime implicants.

Unit-III: Combinational Logic: Introduction, Design Procedure. Adders, Subtractors, Code Converters. Analysis procedure for Combinational Circuits. Multilevel NAND & Multilevel NOR circuits, Exclusive-OR function: Odd function, Parity generation & checking.

Unit-IV: MSI & PLD components: Introduction, Binary parallel adder, binary adder-subtractor, Decimal adder, BCD adder, Magnitude comparator, Decoders, Encoders. Multiplexers & Demultiplexers. ROM, Various types of ROMs, Programmable Logic Arrays. Programmable Array Logic.

Unit-V: Synchronous Sequential circuits: Introduction, Flip-Flops: basic circuits, RS, JK- Master Slave, D & T- Flip-Flops, Triggering of flip flops. Analysis of clocked sequential circuits. State reduction & assignment. Flip-flop excitation table. Design procedure for Sequential circuit, Design of counters: Ripple counters, Synchronous counters.

Unit-VI: Shift Registers. Types of Shift Register, Random Access Memory (RAM): Static & Dynamic RAM, Algorithmic State Machines: Introduction, ASM charts.

TEXT-BOOKS:

1. M.Morris Mano "Digtal Design" (2/e) (PHI)
2. Jain R.P. "Modern Digital Electronics" (TMH).

REFERENCE BOOKS:

1. Charles H.Roth, "Fundamentals of Logic Design" (JPH)
2. Taub & Schilling " Digital Integrated Electronics" (TMH).
3. Fletcher W.I."An Engineering Approach to Digital Design" (PHI).

2

'Appendix - B'

6IT02 DATABASE MANAGEMENT SYSTEMS

Unit I: Database System Applications, Database Systems versus File Systems, View of Data, Data Models, Database Languages, Database Users and Administrators, Transaction Management, Database System Structure, Application architectures, History of Database Systems. Entity-Relationship Model, Basic Concepts, Constraints, Keys, Design Issues, Entity-Relationship Diagram, Weak Entity Sets, Extended E-R Features, Design of an E-R Database Schema, Reduction of an E-R Schema to Tables.87 88

Unit II: Relational Model: Structure of Relational Databases, The Relational Algebra, Extended Relational-Algebra Operations, Modification of the Database, Views, The Tuple Relational Calculus, The Domain Relational Calculus. , Relational-Database Design:, First Normal Form, Pitfalls in Relational-Database, Design, Functional Dependencies, Decomposition, BCNF, Third, Fourth and more Normal Forms, Overall Database Design Process.

Unit-III: SQL: Basic Structure, Set Operations, Aggregate Functions, Null Values, Nested Sub queries, Views. Integrity and Security, Domain Constraints, Referential Integrity, Assertions, Triggers, Security and Authorization, Authorization in SQL, Encryption and Authentication.

Unit-IV: Query Processing: Overview, Measures of Query Cost, Selection Operation, Sorting, Join Operation, Other Operations, Evaluation of Expressions, Query Optimization: Overview, Estimating Statistics of Expression Results, Transformation of Relational Expressions, Choice of Evaluation Plans, Materialized Views.

Unit-V: Transaction Management: Transaction Concept, Transaction State, Implementation of Atomicity and Durability, Concurrent Execution, Serializability, Recoverability, Implementation of Isolation, Transaction Definition in SQL, Testing for Serializability.

Unit-VI: Concurrency Control: Lock-Based Protocols, Timestamp-Based Protocols, Validation-Based Protocols, Multiple Granularities, Multiversion Schemes, Deadlock Handling, Insert and Delete Operations Weak Levels of Consistency, Concurrency in Index Structures. Recovery System, issues & solutions.

Text Book:
Korth, Sudarshan: Database System Concept, Mc Graw Hill, 4th Edition

Reference Books:
1. Raghu Ramkrishnan: Database system, TMH.
2. C.J.Date : Database System, 8th ed., Pearson.
3. Connolly & Begg, : Database System, 4th Ed.,Pearson.

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NOTIFICATION

No. 100/2015 Date :- 9 /07/2015

Subject :- Continuation of Prospectus No. 141712 prescribed for Semester VII & VIII B.E. /B.Text./B.Tech. in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 141712 prescribed for Semester VII & VIII B.E. (Production/Electronics & Communication/Electronics/Instrumentation/Computer Sci. & Engg./Compute/ B.Text./B.Tech.(Chemical), B.Tech.(Chem.Tech.)(Polymer)(Plastic),(Food, Pulp & Paper, Oil & Paint and Petrochemical) for the session 2013-14 and continued for the session 2014-15 shall be continued for the academic session 2015-2016 with revised syllabi of following subjects:-

Sr. No.	Ref. in Prospectus No. with name of Br. & Subject	Revised syllabi
1.	B.E. Sem VII & VIII (Extc.) Sub-7XT4 (P.E.I) i) VLSI Design	On page No. 64 & 65, the old syllabus of the subject 7XT4 (P.E.-I) VLSI Design of **B.E. Sem. VII (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-A".
2.	Sub-7XT4 (P.E.-I) i)Sat. & Optical Fibre Commun.	On page No. 68 & 69, the old syllabus of the subject 7XT4 (P.E.-I) Satellite & Optical Fibre Communication of **B.E. Sem. VII (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-B".
3.	Sub- 8XT2/8XN2 E.C.D.	On page No. 72 & 73, the old syllabus of the subject 8XT2 Electronic Circuit Design of **B.E. Sem. VIII (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-C".

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VLSI DESIGN

Appendix 'A'

SECTION-A

Unit I : Introduction to VLSI: Applications of VLSI, Advantages, Integrated Circuit Manufacturing - Technology and Economics; CMOS Technology - Power consumption, Design and Testability, Reliability ; Integrated Circuit Design Techniques - Hierarchical Design, Design Abstraction and CAD; IP based design - types of IP, IP across design Hierarchy, IP Life cycle

Unit II : Basic HDL Constructs: VLSI Design flow, Overview of different modeling styles in VHDL, Data types, operators and data objects in VHDL, Dataflow Modeling, Behavioral Modeling, using VHDL for combinational Circuits and sequential Circuits.

Unit III : Hardware Description Language: Structural Modeling, Subprograms, Packages and Libraries, Generics, Configurations, attributes, Simple Test Bench, Simulation and Synthesis issues, case study of ALU/ Sequence Detector, Comparison of various Hardware Description Languages.

SECTION-B

Unit IV : Programmable Logic Devices: Introduction to CPLDs: Function block architecture, input/output block, switch matrix, Study of architecture of CPLDs of Altera /Xilinx. Introduction to FPGAs: Configurable logic block, input/output block and interconnect, Study of architecture of FPGAs of Xilinx /Altera.

Unit V: CMOS Circuits: Different logic families, MOS Transistor, CMOS as an inverter, propagation delay, power consumption/ dissipation issues, simple circuits using CMOS.

Unit VI: CMOS Processing & Digital Circuit Verification: CMOS Fabrication: Different steps of fabrication, CMOS p-well, n-Well and twin tub processes, CMOS Layout and Design rules.

Text Books:

1. Modern VLSI Design, Wayne Wolfe, 4th Edition, PHI
2. Neil H. Weste, David Harris and Banerjee, "CMOS VLSI design", 3rd Edition, Pearson/Addison Wesley
3. J Bhasker," VHDL Primer". Addison Wesley
4. Douglas Perry," VHDL" Tata McGraw HILL

Reference Books:

1) Stephen Brown and Zvonko Vranesic, "Fundamentals of Digital Logic with VHDL Design". Tata McGRAW HILL
2) Uyemura J.P: Introduction to VLSI circuits and systems, Wiley 2002
3) VLSI Test Principles and Architectures by Laung Terng Wang, Elsevier

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Amendix - B

Professional elective 1 (7XT4) SATELLITE & OPTICAL FIBER COMMUNICATION

Section A

Unit I) Introduction:

Satellite: Satellite frequency bands, satellite types-LEO, MEO, GEO, HEO, kepler's laws, satellite polar orbits ,geostationary satellites, orbital aspects of satellite communication, orbital period & velocity, effect of orbital inclination, orbital effect in communication system.

Unit II) SATELLITE CHANNELS:

Electromagnetic field propagations, antennas ,atmospheric loss, receiver noise, carrier to noise ratio, satellite system link models, uplink-downlink & crosslink, transponders, satellite system parameter, satellite link analysis, frequency reuse & depolarization.

Unit III) SATELLITE SERVICES:

Very small aperture satellite (VSAT), overview of VSAT system, network architecture, access control protocols, signal format, modulation, coding& interference issues, VSAT antennas transmitters & receivers, link analysis for VSAT networks

Section B

Unit IV) OPTICAL FIBER WAVEGUIDE & TRANSMISSION CHARACTERISTICS:

Ray theory of optical fiber, total Internal reflection , Snell's law, acceptance angle, numerical aperture, theory of circular wave guide, modes in optical fiber, single mode & multimode optical fiber, power flow, transmission characteristics of optical fiber, attenuation, absorption losses, scattering losses, bending losses, dispersion, intermodal & intramodel dispersion,.

Unit V) OPTICAL SOURCE:

Optical sources, optical emission from semiconductor, LED, power efficiency, double heterojuction LED , basic concepts of LASER, semiconductor injection laser.

Unit VI) OPTICAL DETECTOR:

Optical detection principle, absorption quantum efficiency, responsivity, PIN photo diode, avalanche photo diode, photo transistor & photo conductive detector.

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Text Books:

1.Gagliardi Robert M., 'Satellite Communication", CBS Publication, New Delhi.

2. Senior J. M., "Optical fiber communication and Application", Prentice Hall India pvt. Ltd., New Delhi.

Reference Books:

1. Gowar, "Optical communication system', Prentice Hall.
2. R. P. Khare, "Fiber Optics and Optical electronics", Oxford university press.
3. G. Keiser, "Optical fiber communication", McGraw Hill International Book ltd., New York.
4. Pratt Timothy and Bostian W. Charles, "Satellite Communication", Willey International Publication, New York.

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Appendix-C

ELECTRONIC CIRCUIT DESIGN

SECTION-A

UNIT-I : Design of regulated power supply using transistor, design of DC amplifier, comparator, window detectors, scaling and summing amplifier using IC 741 / IC 324 or equivalent.

UNIT-II : Design of waveform generator using IC 741, IC 8038, IC 566. Design of sweep generator, voltage controlled oscillator. Design of first and second order filters, design of notch filter.

UNIT-III : Design of instrumentation amplifier, Temperature controller /indicator using thermocouple, resistance thermal detector , thermo sensors AD590, LM35

SECTION-B

UNIT-IV : Introduction to CMOS / VLSI circuits, MOS Transistor switch, Realization of universal gates and compound gates using MOS transistors, ***Delay Estimation, Logical Efforts & Transistor sizing, Power dissipation, Interconnect,*** basic physical design of simple logic gates.

UNIT-V : VHDL : Design flow, EDA tools, code structures, data types, operators and attributes. Signals & Variables, concurrent code, sequential code, packages and components, configuration, Introduction to VERILOG.

UNIT-VI : Design of combinational blocks such as multi-bit adders, ALU, MUX, DEMUX , encoders, decoders, Design of sequential circuits, asynchronous and synchronous design issues, state machine modeling (Moore and Mealy machines).

TEXT BOOKS :

1. R.A. Gayakwad : "OP-AMP and Linear Integrated Circuits"
2. Volnei Pedroni, " Circuit Design with VHDL", PHI , 2005 edition
3. Weste , Harris & Banerjee, "CMOS VLSI DESIGN – A Circuits & systems perspective", 4th Edition, Pearson / Addison Wesley

REFERENCE BOOKS:

1. Sergio Franco : Design with Linear Integrated Circuits & Opamps.
2. Douglas L. Perry : VHDL (3rd Ed.) , McGraw Hill.
3. Brown & Vranesic : "Digital Logic Design using VHDL", TMH
4. J. Bhaskar "VHDL Primer" (Pearson Education)

NOTIFICATION

No. 101/2015 Date :- 9/07/2015

Subject :- Continuation of Prospectus No. 131712 prescribed for Semester V & VI B.E./ B.Tech./ B.Text.E. in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 131712 prescribed for Semester V & VI B.E./B.Tech./ B.Text.E.[(Production, Electronics & Telecommunication, Electronics, / Chemical, Chem.Tech.(Poly) (Plastic), Chem.Tech. (Food, Pulp & Paper, Oil & Paint and Petrochemical)] for the session 2012-13 and continued for the sessions 2013-14 and 2014-15 shall be continued for the academic session 2015-2016 with revised syllabi of following subjects:-

Sr.No	Reference in Prospectus No. with name of Br. & subject	Revised syllabi
1.	**B.E. Sem V & VI (Extc.) Sub- 5XT1/XN1 E.D.C.-II**	On Page No. 44, the old syllabus of the subject 5XT1/XN1 Electronic Devices & Circuits-II of **B.E. Sem. III (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-A".
2.	**Sub- 5FEXT5/FEXN5 (Free Elect. –I) (i) Consumer Electronics**	On Page Nos. 48 & 49, the old syllabus of the subject 5FEXT5/FEXN5 (F.E.-I) Consumer Electronics of **B.E. Sem.V(Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-B".
3.	**Sub- 5XT5/XN5 (Free Elect.I) (ii) Fibre Optics**	On Page No. 49 & 50, the old syllabus of the subject 5FEXT5/FEXN5 (F.E.-I) Fibre Optics of **B.E. Sem.V (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-C".
4.	**Sub- 6XT2/XN2 L.I.C.**	On Page No. 53 & 54, the old syllabus of the subject 6XT2/6XN2 Linear Integrated Circuits of **B.E. Sem. III (Extc.)** is replaced by the revised syllabus which is attached herewith vide "Appendix-D".

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Appendix - 'A'
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5XT1/5XN1 ELECTRONIC DEVICES AND CIRCUITS-II

SECTION-A

Unit I: Linear wave shaping using RC and RL circuits, analysis and calculations of RC low pass and high pass filters, analysis of clipping and clamping circuits using diodes and switching transistors. (7)

Unit II: Switching characteristics of semiconductor devices: Diode as switch, transistor as a switch, characteristics and analysis, FET as a switch, characteristics, JFET, CMOS, switching speed of devices:Schottky diode and transistor, Logic gates.Introduction to K-map upto 4-variables. (7)

Unit III: Collector coupled bistable, monostable and astablemultivibrators, Time base generators & Sweep Generators.
Boolean algebra, Number systems, Gray codes, Arithmetic operations using Two's compliments. (8)

SECTION-B

Unit IV: Study and analysis of Digital Logic Families: RTL, DTL, HTL, TTL, ECL, IIL, CMOS, and their characteristics, tri-state logic,5400/7400 TTL series. (7)

Unit V: Flip-flops: R-S, J-K, Master slave J-K, D-type, T-type; registers and counters, adders and subtractors using logic gates, D/A converters and types: Weighted resister, R-2R ladder. A/D converters and Types: Ramp, Dual slope, Successive approximation. (8)

Unit VI: Types of semiconductor memories, sequential memories, 2 and 4 phase ratioless shift registers, static shift registers, implementation of ROM (ROM, PROM, EPROM, EEPROM) BJT RAM cell, MOS-RAM, CCD memories. (7)

Books Recommended:

1) Jacob Millman& Herbert Taub : "Pulse Digital & Switching waveforms", McGraw Hill International Book Co.
2) Taub H. and Schillings D.L., London, : "Digital Integrated Electronics", McGraw Hill Company.
3) R.P.Jain : "Modern Digital Electronics", Tata McGraw Hill, New Delhi 1998.
4) Malvino A.P. & Leach D.P. : "Digital Principles &Applications", TMH Publishing Co., New Delhi (3rd Edition).

Appendix-B

FREE ELECTIVE- I

5FEXT5 / 5FEXN5 (1) CONSUMER ELECTRONICS

SECTION-A

Unit I : ***Audio Systems:*** Microphones : Characteristics, types such as Carbon , Moving coil, Ribbon, Electrets, crystal, Calculate magnitude ,Amplitude & Power Loudspeakers: crystal Electrostatic, Dynamic, Speaker baffle and enclosure, Acoustics, Mono, Stereo, Quad, Equalizers and Mixers, Electronic Music Synthesizers ,Electric Guitar. (8 Lectures)

Unit II : ***Video Systems and Displays:*** Colour TV standards and systems, Elements of T.V. System, Scanning & aspect ratio, interlacing, Dispersion & recombination of light, primary & secondary colors, attributes, Luminance & Chrominance of signal color picture tube & Camera. (8 Lectures)

Unit III : ***Domestic Appliances:*** Washing machines, Microwave ovens, Air- conditioners and Refrigerators, Block diagram explanation of FAX,EPABX System, Telephone Switching System, Mobile Radio System. (8 Lectures)

SECTION-B

Unit IV : ***Recording and Reproduction Systems:*** Disc recording and reproduction, standard recording procedure, Stereo pickup technique, stereo recording system, Extracting the music, Magnetic recording, reproduction, & erasing, Essential blocks in Tape recorder & Play back system. Video disc recording and play back. (8 Lectures)

Unit V : ***Power Supplies and other systems:*** SMPS, UPS and Preventive Maintenance, Set Top Boxes, Bar codes, ATM, Dish washers ,Airline Reservation, Microprocessor & Microcontroller. (8 Lectures)

Unit VI : ***Calculators:*** Structure, internal organization, servicing; In-Car Computers: electronic ignition, electronic ignition lock system, Antilock Braking System (ABS), ultrasonic car safety belt system, Air Bag System, Vehicle proximity detection system. (8 Lectures)

Text Book:

1. Consumer Electronics **S P Bali,** Pearson Ed 2005

Reference book :

R. R. gulati, "Modern Television Practice – Principals, Technology and Servicing" , New Age International (P) Ltd, Publishers, New Delhi

Appendix-C

5FEXT5 /5FEXN5 (2) FIBER OPTICS

SECTION-A

Unit -I : Light Ray Theory

Propagation of light in different media : propagation of light in an optical fiber, Basic structure and optical path of an optical fiber, Acceptance angle and acceptance cone, Numerical aperture(NA) (General), Modes of propagation, Meridional and skew rays, Number of modes and cut-off parameters of fibers. **8 Lectures**

48 49

Unit - II: Losses and Dispersion in Optical Fiber

Fiber Losses : Attenuation in optic fibers, Materials losses, Rayleigh scattering losses, Absorption loss, Leaky modes, Bending losses, Radiation losses.

Dispersion in optical fiber: Electrical Vs. optical bandwidth. Bandwidth-length product, Intermodal dispersion, Mixing modes, Material chromatic dispersion. **(8 Lectures)**

Unit-III: Optical Source :

Absorption and emission of radiation: LED Power and efficiency, double hetrojunction CED, stimulation emission and lasing population inverse, He-Ni laser. **(8 Lectures)**

SECTION-B

Unit -IV: Optical detection:

Introduction, device types, Optical detection principles , Absorption, Absorption coefficient, Direct and indirect absorption : silicon and germanium, III-V alloys, Quantum efficiency, Responsivity, Long wavelength cutoff, Semiconductor photodiodes without internal gain, p-n photodiode, p-i-n photodiode. **(8 Lectures)**

Unit -V: Optical data Communication:

Optical fiber communication : Joints and couplers

Introduction, Fiber alignment and joint loss: Multimode fiber joints, single mode fiber joints, Fiber splices : Fusion splices, Mechanical splices, multiple splices, Fiber connector : Cylindrical ferrule connectiors, Biconical ferrule connectiors, Double eccentric connector, Duplex and multiple fiber connectors, Expanded beam connectors: GRIN-rod lenses. **(8 Lectures)**

Unit -VI : ~~Optical & Fibers~~ Parameter Measurements in optical fiber:

Introduction, Fiber attenuation measurements: Total fiber attenuation, Fiber absorption loss measurement, Fiber scattering loss measurement, Fiber dispersion measurem,ents: Time domain measurement, Frequency domain measurement, Fiber refractive index profile measurements: Interferometric methods, Near field scanning method, Refracted near field method, Fiber cutoff wavelength measurents, Fiber numerical aperture measurements. **(8 Lectures)**

Text Books:

1. Optical Fiber Communications : Principles and Practices- John M.Senior (PHI)
2. Optical Fiber and Optical Fiber Communication Systems S. K. Sarkar (S. Chand and Comp.

Proposed Syllabus LIC Appendix D

6 XT2 LINEAR INTEGRATED CIRCUITS

SECTION-A

Unit I: Operational Amplifier, block diagram of op-amp, Differential amplifier: gain expressions using H - parameters, constant current source, level shifting, transfer- characteristics, frequency response, frequency compensation methods, study of ICuA741,measurement of parameters of op-amp and off set nulling and their importance. (7)

Unit II: Linear Applications of Op-Amp: Inverting and non inverting amplifiers- **gain, input impedance, output impedance with feedback** , voltage followers (AC & DC), integrator, differentiator, differential amplifier, instrumentation amplifiers, precision rectifiers, RMS to DC converter, voltage to current converter, sinusoidal RC oscillators, constant voltage sources, frequency to voltage and voltage to frequency converter. (8)

Unit III: Non Linear Applications of Op-Amp and Filter Circuits: Clipping and clamping circuits, comparator, zero crossing detector, Schmitt trigger, peak detector, astable, monostable and bistable multivibrator, voltage sweep generator, **Sample & hold circuit.** (7)

SECTION-B

Unit IV: 1. **Active filters : Butterworth filters using op-amp. Log and Antilog amplifiers.**
2. Timers : Block schematic of IC 555, application of timer 555 as astable, monostable and bistable multivibrators, frequency divider, pulse stretcher, sawtooth generator, free running ramp generator, **Pulse Width Modulator**, FSK generator. (7)

Unit V: Voltage Regulator: **Introduction to basic transistorized series regulator**, Block schematic of regulator IC 723, regulated power supply using IC 723, short circuit protection, switch mode power supply, dual tracking regulators, regulator using 78**, 79**, and LM 317. (7)

Unit VI: 1. PLL: Operation of phase lock loop system, transfer characteristics, lock range and capture range, study of PLL IC-LM 565 and its applications as AM detector, FM detector, frequency translator and **Frequency multiplier**.
2. Introduction to Audio Function Generator IC 8038. (7)

PRACTICALS : Minimum 4 experiments based on the above syllabus, preferably uniformly distributed. & 4 experiments based on syllabus of Digital Integrated Circuit.

BOOKS RECOMMENDED :-

1) Gayakwad R.A. : OP-Amps and Linear Integrated Circuits, Prentice Hall of India Pvt. Ltd., New Delhi (Second Edition), 1980.
2) Robert F. Coughlin, Frederick F. Driscoll: Operational Amplifier and Linear Integrated Circuits, Sixth Edition, PHI Pub.
3) Tobey J.E. and Grame J.E. : Operational Amplifier Design and Applications, International Student Edition, 1983.
4) T.R. Ganesh Babu, B. Suseela: Linear Integrated Circuits, Third Edition, Scitech Pub.
5) Robert F. Coughlin, Frederick F. Driscoll : Operational Amplifier & Linear Integrated Circuits, Sixth Edition, PHI Pub.
6) D.Roy Choudhury & Shail B. Jain,: Linear Integrated Circuits, New Age International Publication, Second Edition.

TEXT BOOKS:

1. M. A. Mazidi, J. G. Mazidi and R. D. McKinley: "The 8051 Microcontroller and Embedded Systems using Assembly and C", Pearson Education (2nd Ed.)
2. K. J. Ayala : "The 8051 Microcontroller", Penram Int. Pubs., 1996

REFERENCE BOOKS:

1. Using the MCS-51 Microcontroller by Han- Way Huang, Oxford University Press
2. National Semiconductor: Data Acquisition Linear Devices Data Book.
3. Embedded Microcontrollers and Processors:-Volume-I-Intel
4. Intel Peripheral Devices Data Book.

NOTIFICATION

No. 102/2015 Date :- 9/07/2015

Subject :- Continuation of Prospectus No. 141711 prescribed for Semester VII & VIII B.E. /B.Arch. in the Faculty of Engineering & Technology.

It is notified for general information of all concerned that the Prospectus No. 141711 prescribed for Semester VII & VIII B.E. (Civil, Mechanical, Electrical(E & P), Electrical & Electronics, Electrical (E & P), Electrical, Information Technology, Biomedical Engineering) /B.Arch. for the session 2013-14 and continued for the session 2014-15 shall be continued for the academic session 2015-2016 with following addition /deletion/ substitutions:-

Sr. No.	Ref. in Prospectus No. with name of Br. & Subject	Addition/deletion/substitution/revised syllabi
1.	**7ME02 Energy Conversion -II**	On page No. 45, **in Unit III,** in line No.7, the words "Need for CFC free refrigerants" be substituted by the words "Need for chlorine free refrigerants". In Unit No.6, the words "basic concepts of be added after the words "Introduction to" in line No.1.
2. 3.	**7ME03 Industrial Mgmt. & Costing** **7ME04 Automation Engg**	On page No. 46**, in Unit III a)** in line No.2, the words "Workers participation in management, joint consultation, collective bargaining" be deleted and the words "Introduction to Personnel management" be added at the beginning of Unit III a). On page No. 47**, in Unit II**, the words "Programming languages-APT, ADAPT, EXAPT etc. of line No.4, the words "Examples of APT" of line No.7 and the words "Applications & economics of CNC" of the last line of Unit II be deleted and the words "Programming with APT, applications of CNC" be added at last of Unit II. The words "closed systems" be replaced by the words "closed loop and open loop system" of line No.2. **In Unit III**, the words "Introduction to cybernetics" of line No.1 and the words "Technical specification of robots, robot economics" of line No.7 be deleted. The word "efforts" be replaced by the word "effectors". On page No. 48, **In Unit V**, in line No.1, the words "Simulation and analysis of FMS" be deleted. **In Unit VI**, the words "Machine vision" be added at last. In the list of **Reference Books,** the words & figures "6. Industrial Robotics by M.P. Groover, TMH" be added after Sr.No.5. In the paper **7ME03 Industrial Mgmt. & Costing,** the Unit wise total teaching hours shall be as: Unit I – 10, Unit II – 10, Unit III – 07, Unit IV – 07, Unit V – 07 & Unit VI – 07.
4.	**7ME05 (P.E.-I) Non - Conven. Energy Systems**	On page No. 48**, in Unit II,** at line No.1**,** the words **"**Reflection and absorption of radiation optical properties of cover systems in transmittance effect of surface layer on transmittance absorptance products" be deleted and the words "Introduction to evacuated tube solar collector" be added at last.
5.	**7ME05 (P.E.-I) Tool Engg.**	On page Nos. 50 & 51, the old syllabus of the title **7ME05 (P.E.-I) Tool Engineering"** be substituted by the revised syllabus which is attached as per **Appendix-A.**
6.	**7ME09 Auton. Engg. – Lab.**	In the list of **Practicals** of the paper **7ME09 Auton. Engg. – Lab., the words** "At least six practicals will be based on the following topics" be substituted by the words "At least six practicals (any **three** from Sr.No.1 to 5 and any **three** from Sr.No.6 to 10". The list of the practicals from Sr.No. 1 to 10 be substituted by the new list as given below : "1. Preparation of manual part program for point-to-point control. 2. Preparation of manual part program for two-axis CNC turning operation. 3. Computer aided off-line simulation of CNC machining 4. Programming on NC, CNC machines. 5. Programming examples of APT. 6. Study of construction and working of robots. 7. study of CAPP approaches. 8. Case study of grouping of work parts using coding techniques 9. Study of configuration and working of flexible Manufacturing Cell 10. Study of computer aided quality control

7.	**7ME10 (P.E.I) Tool Engg. -Lab.**	In the list of **Practicals** of the paper **7ME10 Tool Engg.- Lab., the words** "Any Eight" be substituted by the words "Any six". The old list of the practicals from Sr. No. 1 to 10 be substituted by the new list as given below : "1. Measurement of forces in orthogonal cutting by lathe tool dynamometer. 2. Measurement of forces & torque in drilling by drill tool dynamometer. 3. Design & drawing of single point cutting tool 4. Design & drawing of form tools (by graphical method) 5. Study of geometric elements & forces in multi point cutting tool. 6. Design & drawing of post drill jigs. 7 Design & drawing of turnover drill jigs. 8. Design & drawing of milling fixture 9. Design & drawing of turning fixture 10. Design & drawing of compound die 11. Design & drawing of progressive die 12. Design & drawing of drawing die
8.	**8ME02 (P.E.-III) (i) Refrigeration & A/c.**	On page No. 61 & 62, the old syllabus of the title "**8ME02 (P.E.-III) Refrigeration & A/c."** be replaced by the new syllabus which is attached herewith vide **Appendix-A.**
9.	**8ME02 (P.E.-III) (iv) Robotics**	On page No. 65, **in Unit II,** at line No.4**,** the words "Joint notation schemes" be deleted and the word "value" be replaced by the word "volume". **In Unit III**, the words "Interlocking sensor commands, work cell controller" be added at last after the words "programming methods". **In Unit IV**, in line No.4, the words "Robot environment and robot input/output interfaces machine intelligence" be deleted. **In Unit VI**, the words "Comparison & features of robots for various applications, Introduction to robot programming languages AL, VAL, MCL, RAIL" be added at last after the words "flow method". In Line No.2, the words "Robot investment coats" be replaced by the words "Robot investment costs". On page No. 66, in the list of **Text Books,** the words & figures "3. 'Robotics' by Niku" be added after Sr.No.2 and in the list of **Reference Books,** the words & figures **"4.**Robotics by Lee" be added after Sr.No.3.
10.	**7IT02 O.O.A.D.**	On page Nos. 168 & 169, the old syllabus of the subject 7IT02 Object Oriented Analysis & Design of **B.E. Sem. VII (I.T.)** be replaced by the revised syllabus which is attached herewith vide "**Appendix-A**".
11.	**7IT05 (P.E.-I) Distributed D.B.M.S.**	On page Nos. 171 & 172, the old syllabus of the subject 7IT05 Distributed D.B.M.S. of **B.E. Sem. VII (I.T.)** be replaced by the revised syllabus which is attached herewith vide "**Appendix-B**".
12.	**8IT04 (P.E.-II) Data Warehousing & D.M.**	On page Nos. 180 & 181, the old syllabus of the subject **8IT04** Distributed Data Warehousing & Data Mining of B.E. Sem. VIII (I.T.) is replaced by the revised syllabus which is attached herewith vide "Appendix-C".
13.	**8IT07 Comp. Lab-V**	ON page No. 184, in the title of the paper **8IT07 Comp. Lab-V,** the word **"Lab-V"** be replaced by the word **"Lab-IV".**

Sd/-
Registrar,
Sant Gadge Baba Amravati University

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Appendix - 'A'

7IT02 OBJECT ORIENTED ANALYSIS AND DESIGN

UNIT-I:
Modeling Concept: Introduction, Object orientation, OODevelopment, OO themes, Modeling as a design technique, Class Modeling. Abstraction, The three models, Object and class concepts, Link and association concepts, Generalization & Inheritance, Navigation of class models.(08Hrs)

UNIT II:
Advanced object and class concepts, Association Ends, N-ary association, Aggregation, Abstract classes, Multiple inheritance, Metadata, Reification, Constraints, Derived data, Packages, State Modeling: Events, States, Transitions and Conditions, State diagrams, State diagram behavior. (08Hrs)

UNIT III:
Nested state diagram, Signal Generalization, Nested states, Concurrency, Relation of class and state models, Use case model, Sequence models, Activity models, Use case relationships, Procedural sequence model, Special constructs for activity models.(08 Hrs)

Unit IV:
Development stages, Development life cycle, Devising a system concepts, Elaborating a concepts, Preparing a problem statements, Overview of analysis, Domain class models, Domain state model, Domain Interaction model. (08 Hrs)

Unit V:
Application Analysis. Overview of System Design, Estimating Performance, Making a reuse plan, Breaking a system into subsystems, Identifying Con cur r en cy, Allocation of subsystems, Management of data storage, Handling global resources, Choosing a software control strategy, Handling boundary conditions, Setting trade-off priorities, Architecture of the ATM system.(08Hrs)

Unit VI:
Overview of class design, Realizing the use cases, Designing algorithm, Recursing Downwards, Refactoring, Design Optimization, Reification of behavior, Adjustment of Inheritance, Organizing a class design, ATM examples

Text Book :
Blaha , Rumbaugh:"Object Oriented Modeling and Design with UML"(2/e) Pearson Education.

Reference Books:
1. Dathan , Ramnath: "Object Oriented Analysis, Design &Implementation," OUP.
2.McRobb & Farmer: "Object Oriented System Analysis & Design" McGraw Hill..
3. Booch, Rumbaugh & Jacobson: "The UML User guide " Pearson Education.
4.Whitten & Bentley: "System Analysis & Design Methods" Tata McGraw Hill.
5. Booch: "Object Oriented Analysis & Design with Applications", Pearson Education

'Appendix B'

7IT05 PROFESSIONAL ELECTIVE – I (1) DISTRIBUTED DBMS

UNIT-I: Introduction to DDBS: Introduction, Promises of DDBs, Problem areas. Overview of Relational DBMS: RDBMS concept, Normalization, Integrity Rules. Review of Computer Networks: Data Communication Concepts, Types of Network, Protocol Standard. (8)

UNIT-II: Distributed DBMS architecture, Distributed Database Design: Alternative Design Strategies, Distributed Design issues, Fragmentation, Allocation Semantic Data Control: Semantic Integrity Control.(8)

UNIT-III: Overview of Query Processing: Problem & objectives of Query Processing, Characteristics of Query processors, Layers of Query processing. (8)

UNIT-IV: Distributed Transaction management and Concurrency control: Definition, Properties and types of Transaction. Distributed Concurrency control: Serilizability, Taxonomy, Locking based concurrency control algorithms, Deadlock management. (8)

UNIT-V: Distributed DBMS reliability: Reliability concepts and measures, Failures and Fault tolerance in distributed systems, Failures in DDBMS, Local reliability protocols, dealing with site failures. (8)

UNIT-VI
Current issues: Data Delivery Alternatives, Dataware housing. World wide web, Mobile databases, Data Stream Management. (8)

Text Books:
1. M. Tamer Oizsu and Patrick Valdurlez : Principles of Distributed Database Systems, 2nd ed. (Text Book) Person Education, LPE.
2. Ceri and Palgetti: Distributed Database System-(Reference Book) TMH.

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'Appendix C

8IT04 PROF. ELEC. – II (1) DATA WAREHOUSING AND DATA MINING

UNIT I: Introduction, Data mining, Data mining functions, classification and major issues. Data Preprocessing: Data cleaning, data integration and transformation, data reduction.

UNIT II: Mining Frequent Patterns, associations and Correlations: Basic Concepts and Methods: Basic concepts, Frequent Item set Mining Methods, Patterns Evaluation Methods.

UNIT III: Data Mining Trends and Research Frontiers: Mining Complex Data types, Data Mining Applications, Data Mining and Society.

UNIT IV: Data warehouse the Building blocks: Defining Features, Data Warehouses and Data Marts, Overview of the Components, Metadata in the Data Warehouse. .

UNIT V: Data Extraction, Transformation, and Loading: ETL Overview, Data Extraction, Data Transformation, Data Loading, ETL Summary.

UNIT VI: Trends in Data Warehousing: Continued Growth in Data Warehousing, Significant Trends, Emergence of Standards, Web-Enabled Data Warehouse (

Text Books:
1. J. Han, M.Kamber, Jian Pei : Data Mining Concepts & Tech., 3rd Ed., Elsevier Pub. Indian Reprint, 2012.
2. Paulraj Ponniah – Data warehousing Fundamentals 2nd Ed., Wiley India.

Reference Books :
1 Deshpande P.S. Data warehousing using Oracle – Dreamtech Press
2. Suresh Kumar, Reddy, Kallimani – Data Mining Principles and Applications, Elsevier, India.

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