Dr. B.R. Ambedkar University of Social Sciences
(State University, Government of M.P.)
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डॉ. बी. आर. अम्बेडकर सामाजिक विज्ञान विश्वविद्यालय
(राज्य विश्वविद्यालय, मध्यप्रदेश शासन)

क्रमांक–ब्राउस / स्था / अध्यादेश / 2018 / 488 दिनांक : 23.06.2018
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अधिसूचना

डॉ. बी. आर. अम्बेडकर सामाजिक विज्ञान विश्वविद्यालय अधिनियम 2015 की धारा 32 के अन्तर्गत तैयार किये गये अध्यादेश–17 (Certificate course in CNC Turning and milling, Maching operator CNC milling & Maching operator cnccc CNC turning) विश्वविद्यालय अधिनियम 2015 की धारा 44 (4)(दो) के अन्तर्गत प्रदत्त कार्य परिषद के अधिकारों के तहत कुलपति जी द्वारा अनुमोदित किये गये है।

यह अध्यादेश अधिसूचना जारी दिनांक से प्रभावशील किये जाते है।

आदेशानुसार,

संलग्न : अध्यादेश–17 की छायाप्रति।

(डॉ. एच.एस.त्रिपाठी)
कुलसचिव

पृ.क.ब्राउस / स्था / 2018 / दिनांक : 23.06.2018
प्रतिलिपिः–

1. कुलपति के निज सचिव की ओर सूचनार्थ।
2. समस्त डीन, ब्राउस
3. वित्त नियंत्रक, ब्राउस
4. बेवसाईट इंचार्ज की ओर विश्वविद्यालय की बेवसाईट पर देने हेतु। की ओर सूचनार्थ प्रेषित।

कुलसचिव

Dr.B.R.Ambedkar University of Social Sciences Dr.Ambedkar Nagar (Mhow)
(State University, Government of M.P.)

BRAUSS ORDINANCE No :-15

1. **Certificate Course In CNC Turning and Milling**
2. **Machine operator CNC Milling**
3. **Machine operatorCNCCC CNC Turning**

Dr.B.R.Ambedkar University of Social Sciences
(State University, Government of M.P.)

Dr. Ambedkar Nagar (Mhow) District- Indore (M.P.)
https://www.brauss.inin

Pithampur Auto Cluster (A Govt.M.P. Under taking)
126,kanchanbag, opp. HhoHHHtel Crown PalaceG,
Near Geeta Bhavan Squrae, Indore-452005

1.0 Background:

"Atta Deepo Bhava" means light into yourself. This is the motto of Dr.B.R.Ambedkar University of scial sciences,Dr.Ambedkar Nagar (M.P.). "Transforming our world the 2030 "Agenda for Sustainable Development" was the resolution adopted by the United Nations General assembly on 25 September 2015 with a plan of action for people, planet and prosperity.

There are 17 sustainable Development Goals (SDG) The Government of India including the Government of Madhya Pradesh are also committed to achieving these goals by 2030. The State planning Commission has already started working on the strategies with all Departments of the Government to work our strategies for ensuring achievement of SDGs in a time bound manner.

Advance Technical & Industrial Training Center (ATITC) is a premier Institute of **Pithampur Auto Cluster - Government of MP Undertaking**, established under IIUS (Industrial Infrastructure up Gradation Scheme) of Government of India sanctioned in Nov., 2004 to fulfill the infrastructural gap especially for the technical and skill man power requirements of the Auto Industries of Madhya Pradesh. It is located at A.B. Road Opp. Veterinary College, Village Harniakhedi, Indore, Mhow, having 9800 Sqm. constructed area spread over a land area of near about 5 acre which is educational hub and nearby to industries hub.

The present facility of ATITC is capable to cater the need of more than 1000 trained technical manpower for manufacturing, production and automobile industries at a time. Please also find enclosed herewith Brochure to have an overview about our activities. It is providing services in above field since 2007.The following are the main features of the facility and training

We are also associated with (Madhya Pradesh Council of Employment & Training) MAPCET since March, 2015 to educate and provide Skill Development Training to SC/ST students. Till Date we have trained 1000 Students and provide them Employment also.

1.1 Latest machineries / equipment

- CNC wire cut
- CNC EDM
- CNC Milling
- CNC Turning
- Injection Moulding Machine
- Milling
- Lathe

1.4. Achievement

We are associated with (Madhya Pradesh Council of Employment & Training) MAPCET, DDU GKY, to trained and provide Skill Development Training to SC/ST students. We are also affiliated with the DGET, New Delhi and Conduction NCVT programme. Till Date we have trained more than1000 trainees and provide them Employment also.

2.0 Objectives:

As per the Memorandum of Understanding signed on 05th September 2017 by the Registrar,Dr. B.R. Ambedkar University of Social Science (BRAUSS), Dr. Ambedkar nagar (MHOW) and Managing Director, Pithampur Auto Cluster, Indore to trained, extend and strengthen the functional relationship including Academics, and training in order to share the facilities and expertise available with each of them.

Main objectives of Certificate course in mentioned courses is focus on-

2.1 To trained the SC and ST candidates who have been drop outs or discontinue their studies after class 10th.

2.2 Certified and trained man power to fulfill the requirement of the Industries

2.3 Career opportunities at their doorstep for the youth who were denied opportunities of higher education.

2.4 The trainees can be able to work as basic fitter, can operate and able to perform various operation drilling, shaping, slotting, planer, lathe, milling, grinding

2.5 The trainees can be able to do CNC programming & operate CNC machine

2.6 On successful completion of this course, the candidates shall be gainfully employed in the following industries:

1. Production & Manufacturing industries.
2. Service industries like road transportation and Railways.
3. Ship building and repair
4. Infrastructure and defense organizations
6. Self employment

SYLLABUS FOR ONE YEAR CERTIFICATE COURSE IN CNC TURNING & MILLING

1st Semester

1. WORKSHOP TECHNOLOGY

Unit 1	**Safety Precaution**
	1. Use and application of safety precaution.
	2. Study courses of accidents, select safety rules and precautions.
Unit 2	**Hand Tools**
	1. Classification and selection of press tools
	2. Design Features, working Feature.
	3. Identification and description of hand tools.
Unit 3	**Drilling Machines and Operations**
	1. Classification selection and use of drilling operations and machines.
	2. Description of main parts and features of drill machines.
	3. Work holding devices.
	4. Cutting tool holding devices.
	5. Operations
	6. Cutting Parameters
Unit 4	**Shaper**
	1. Use and selection of shaping operation and shaper.
	2. Design construction and description.
Unit 5	**Turning Operation and Lathe Machines**
	1. Classification selection and use of turning operation and lathe.
	2. Description of main parts and features of lathe.
	3. Work holding devices.
	4. Cutting tool holding.
	5. Cutting Parameters
	6. Operation.
Unit 6	**Milling Operations and Milling Machine**
	1. Classification selection and use of milling operations and milling.
	2. Description of main parts and features of milling.
	3. Work holding and attachments.
	4. Cutting tool holding.

	8. Introduction of geometrical tolerance symbols and characteristics
	9. Location of tolerance Run out Tolerance circular run out
	10. Rule of geometrical tolerancing relationship of individual features from its ideal features form
	11. Procedures of drawing symbols indication tolerancing and interpreting symbols and indications
Unit 4	**Section View**
	2. Type of sections sectional lines and assembly sectioning
	2. Drawing of sectional views
	6. Intersection of two planes surfaces intersection of two curved surfaces
Unit 5	**Elements of Assembly**
	7. Temporary joints, permanents joints – Screw threads, bolts nuts, Doweld, Washers, Springs, welded joints and types
	8. Drawing and dimensioning of different joints.
Unit 6	**Milling Operations and Milling Machine**
	7. Introduction
	8. Detail drawing title block and bill of material
	9. Relationship of assembly drawing Detail drawing and machine elements: Gears and Types: Bearing and Types, Shafts Coupling and types, key, criclips, pin, O-rings

3. MATERIAL TECHNOLOGY

Unit 1	**Manufacturing of steel and C.1**
	1. Making iron by different process
	2. Heat of carbon on structure and application
	3. Specification and designation of steel with commercial aspect
	4. Carbon contents and types of cast iron
	5. Concept of alloy steel, classification as low alloy and high alloy steel
	6. Common alloying elements
Unit 2	**Non Ferrous metals and alloys**
	1. Manufacturing and application of aluminum manganese, zinc, lead, copper, tin, Nicole and its alloy brass bronze, duralumin
Unit 3	**Heat Treatment**
	Introduction to heat treatment and its application
	1. Iron – Carbon phase diagram
	2. Transformation of all types of iron
	3. Transformation of hypo, hyper and electoid steel
Unit 4	**Transformation of Austenite, Pearlite, Bainite, Mertensite and cementite**
	1. Time – Temperature Transformation (TTT) curves in heat Treat ment of steel

4. ENGINEERING METROLOGY

Unit 1	**Introduction**
	1. Scope and need of metrology

	13. Cutting tool holding.
	14. Cutting Tool and cutting Parameters
	15. Operations.
Unit 6	**Cylindrical Grinding Operations and Cylindrical milling Machine**
	6. Main part of features of surface grinding machine
	7. Work holding attachments
	8. Cutting Tools, Grinding wheel
	9. Cutting parameter
	10. Operational Principle, Types of Grinding Machine
Unit 7	Electric Discharge Machine
	11. Concept of EDM Machine
	12. Fundamental of Machine Control
	13. Advantages and Disadvantages of EDM Machines
	14. Layout of EDM systems
	15. Spark Generator
	16. Electrode material concept
	17. Dielectric Fluids
	18. Metal Removal Rates
	19. Safety Precaution on EDM Machine
	20. Daily Routine Maintenance and preventive Maintenance of EDM Maintenance

	Use of cycles in "G&M" Codes label set mirror image, scaling rotation, daton shift, etc. coller compensation.
	Practice of above on the machine and test run.
	Setting the work pieces on the machine and zero setting.
	Practical on the machine for all of the above cycles countour data transfer from external source.

4. CNC TURNING

i)	Advantages of CNC Turning over conventional turning, differences between CNC turning and conventional turning.
ii)	Function of turret, control system control panel and its different element.
G&M Codes, Program structure, writing structure, writing a program structure writing a program, editing a program, test run and dry run of a program tool use compensation, particulars on the machine.	
General Programming: Basic datum setting programming such as Taper threading, multi start threding, complicated boring, internal and external threading	
Safety precaution while working maintenance of the CNC turning machine	

5. WIRECUT

1	Application of wire cut machine its advantages in industries.
	Safety precaution while working its different element.
	Machine tool element, control system etc.
	Die electric fluid properties of die electric fluid, resin, its application and use, wire and its size shape and material, wire tension, the function of wire cut machine and its working.
	Important maintenance work and other regular working such as change of resin and change of die electric fluid, change of wire spool, working on wire cut machine.
	Programming, path programming, definition different G&M Codes, editing testing and dry run of program transferring the data from computer to the machine use of Auto cad for programming practical on machines.

due permission of Managing Director, PITHAMPUR AUTO CLUSTER /registrar, BRAUSS.

9.3 Examination time table and dates would be announced as per the admission and Completion of Course.

9.4 Examination and evaluation will be as per the requirement of internal and external training for the Students enrolled in a particular programme, and/or may be decided by an examination committee constitute for the purpose.

9.5 Certification criteria-

a. Above 80%- 'A' grade
b. Between 60 to 80% 'B' grade
c. Between 45 to 60% 'C' grade
d. Below 45% 'D' grade

9.6 Question papers are in multiple choice (objective) patterns and to be prepared by as per Committee decision by UNIVERSITY, BRAUSS.

9.7 For theory papers evaluation and practical assessment a panel of examiners shall be submitted by the Course In charge, BRAUSS after taking consent of the Special Director (training), and form such panel, examiners shall be appointed by the Vice Chancellor, BRAUSS.

9.8 That the UNIVERSITY, BRAUSS shall carry out the evaluation & examination of the trainees and award certificates to the students trained by ATITC, PITHAMPUR AUTO CLUSTER.

10 Convocation:

The convocation ceremony will be organized by PITHAMPUR AUTO CLUSTER and Certificate will be awarded by BRAUSS as per process and provision under relevant Ordinances of BRAUSS.