KANDULA SRINIVASA REDDY MEMORIAL COLLEGE OF ENGINEERING

(AUTONOMOUS)

KADAPA-516003. AP

(Approved by AICTE, Affiliated to JNTUA, Ananthapuramu, Accredited by NAAC)

(An ISO 9001-2008 Certified Institution)

DEPARTMENT OF MECHANICAL ENGINEERING

VALUE ADDED COURSE

ON

"Industrial Safety and Management"

ResourcePerson :**Mr. S. Vijaya Kumar. Assistant Professor, Dept. of ME, KSRMCE**

CourseCoordinator:**Dr.P.Sreenivas. Associate Professor, Dept. of ME, KSRMCE**

Duration : 11/08/22 to 03/09/22

K.S.R.M.COLLEGEOFENGINEERING

(AUTONOMOUS)

Kadapa,AndhraPradesh,India– 516003

ApprovedbyAICTE,NewDelhi&AffiliatedtoJNTUA,Ananthapuramu.

An ISO14001:2004& 9001:2015Certified Institution

Lr./KSRMCE/CE/2021-22/

Date: 08-08-2022

To

The Principal,
KSRMCE,
Kadapa

RespectedSir,

Sub: Permission toConductValue Added Course on "**Industrial Safety and Management**" from 11-08-2022 to03-09-2022–Reg.

RespectedSir,

The Department of Mechanical Engineering is planning to offer a Value Added course on "**Industrial Safety and Management"** to IV B. Tech. students. The course will be conducted from 11-08-2022 to 03-09-2022. In this regard, we are requesting you to grant permission to conduct Value Added Course.

Thanking you sir,

Yours faithfully

P. Sreenivas

(Dr. P. Sreenivas. Associate Professor)

Forwarded to permitted sir

Permitted
U.S.S. Murty
08/08/2022

K.S.R.M.COLLEGEOFENGINEERING

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Cr./KSRMCE/ME/2021-22/

Date: 09/08/2022

Circular

The Department of Mechanical Engineering is offering a Value Added Course on "**Industrial Safety and Management**"From 11-08-2022 to 03-09-2022to IV B.Tech students. In this regard, interested students are requested to register for the Value Added Course with following registration link.

https://forms.gle/bE7BXxNCjjjTwoty5

For further information contact Course Coordinator
Course Coordinator Dr. P. Sreenivas,Associate Professor, Dept. of ME.-KSRMCE
Contact No: 9849056800

HOD

Dept. of ME

Professor & Head
Department of Mechnical Engineering
K.S.R.M. College of Engineering
KADAPA - 516 003.

Cc to:

IQAC-KSRMCE

Registration for Value Added Course on "Industrial Safety and Management "from 11-08-2022 to 3-09-2022

Dear Students. Register to the Value Added Course by using the Following Google form

* Required

1. 1.Full name of the Student *

2. 2. College name *

3. 3. Branch and Semester *

4. 4. Roll Number *

5. 5. Mobile Number *

6. 6. College Mail ID *

7. 7.College ID Proof *

   Files submitted:

online Registered students for Value added course

S.no	Timestamp		2. College name	3. Branch and Semest	4. Roll Numbe	5. Mobile Nu	6. College Mail ID
1	8-8-2022 15:46:33	Syed Samiuddin	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0339	9705712217	209y5a0339@ksrmce.ac.in
2	8-8-2022 16:42:38	ESLAVATH RAVI NAIK	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0310	9014088781	209y5a0310@ksrmce.ac.in
3	8-8-2022 21:18:59	Neelam Pavan Kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0326	6303370068	209y5a0326@ksrmce.ac.in
4	8-9-2022 10:57:32	PETNIKOTA ADINARAYANA	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209y5a0329	9866615494	209y5a0329ksrmce.ac.in
5	8-9-2022 12:27:54	G. Bharath	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0311	9177104680	199y1a0311@ksrmce.ac.in
6	8-9-2022 14:05:07	Ravi kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0335	9704280048	199y1a0335@ksrmce.ac in
7	8-10-2022 13:18:49	CHITRALA VENKATA SWAMY	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0307	9703885371	209y5a0307@ksrmce.ac.in
8	8-10-2022 16:12:12	SYED FAROOQ	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0338	9703328379	209y5a0338@ksrmce.ac.in
9	8-10-2022 21:04:02	SYED ASLAM	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0354	9652024977	199y1a0354@ksrmce.ac.in
10	8-11-2022 11:16:56	Sunkesula Babasab	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0353	9912472891	199y1a0353@ksrmce.ac.in
11	8-11-2022 11:17:34	Shaik mahammed mansoor	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0345	9390086262	199y1a0345@ksrmce.ac.in
12	8-11-2022 11:20:29	SUDA ABHILASH KUMAR RE	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0352	7569094269	199y1a0352@ksrmce.ac.in
13	8-11-2022 11:22:32	Shaikmohammedshoaibakthar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0348	9346189274	199y1a0348@ksrmce.ac.in
14	8-11-2022 11:23:48	Reddamveeratejaswar Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0338	9000554547	199y1A0338@ksrmce.ac.in
15	8-11-2022 11:23:57	c.abdul subahan	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1ao306	9398489696	199y1ao306@ksrmce.ac.in
16	8-11-2022 11:24:56	S. Abdul Rasheed	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0341	+917569924	199y1a0341@ ksmce. ac. in
17	8-11-2022 11:26:53	Khaleelulla Khan	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0336	0939097624	199y1a0336
18	8-11-2022 11:26:54	Kurnoolkhalandar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0344	7780229755	199y1a0344@ksrmce.ac.in
19	8-11-2022 11:28:56	Shaik Ghouse Basha	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0343	9900223867	199y1a0343@ksrmce.ac.in
20	8-11-2022 11:29:25	Shaik Zabeeulla	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0350	9182933715	199y1a0350@ksrmce.ac.in
21	8-11-2022 11:29:55	Moghal. Junaid Baig	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0328	6303552029	199y1a0328@ksrmce.ac.in
22	8-11-2022 12:29:27	Kothapalle Vamsidhar Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0319	7396202736	199y1a0319@ksrmce.ac.in
23	8-11-2022 13:30:59	JAMPANGI OBULESU	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0314	6309495902	209y5a0314@ksrmce.ac.in
24	8-11-2022 13:34:45	MARKAPURAM MYSORA REI	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0326	9110781994	199Y1A0326@ksrmce.ac.in
25	8-11-2022 13:39:32	Shaik Maz Ahamed	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0336	7207309281	209y5a0336@ksrmce.ac.in
26	8-11-2022 13:41:26	P.Hari Vardhan Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0331	8317603252	209y5a0331@ksrmce.ac.in
27	8-11-2022 13:54:56	YATAGIRI HEMANTH KUMAR	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0343	8008109390	209y5a0343@ksrmce.ac.in
28	8-11-2022 14:07:14	Bandi Shiva Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0303	6309323521	199y1a0303@ksrmce .ac.in
29	8-11-2022 14:30:36	Buchupalli Siva Prasad reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0304	9963970593	209Y5A0304@ksrmce.ac.in
30	8-11-2022 14:45:42	DAKALA SRINIVASULU	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209y5a0308	6301450669	209y5a0308@ksrmce.ac.in
31	8-11-2022 15:24:39	THOTA SATHISH REDDY	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0341	8919406152	209y5a0341@.ksrm.ac.in
32	8-11-2022 16:12:34	M SREEKANTH REDDY	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0329	6303677940	199y1a0329@ksrmce.ac.in

33	8-12-2022 12:53:16	MOOLI CHENNAKESAVA R	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0325	6.303E+09	209y5a0325@Ksrmce.ac.in
34	8-12-2022 13:21:08	K.UPENDRA REDDY	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0316	7.981E+09	209y5a0316@ksrmce.ac.in
35	8-12-2022 13:24:05	G.Manisagar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y5a0311	9.014E+09	199y5a0311@ksrmce.ac.in
36	8-12-2022 13:32:40	KUNU SIVABABJI	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0317	9.347E+09	209y5a0317@ksrmce.ac.in
37	8-12-2022 14:18:33	VANGALA BHARGAVA KU	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0356	7.702E+09	199y1a0356@ksrmce.ac.in
38	8-12-2022 16:09:00	Yeduguru Shashi Kiran Red	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0345	7.287E+09	209y5a0345@ksrmce.ac.in
39	8-12-2022 19:57:56	YERRABALLE VENU	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0346	8.5E+09	209y5a0346@ksrmce.ac.in
40	8-12-2022 21:36:46	SUNKARI UDAY KIRAN	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0337	9.515E+09	209y5a0337@ksrmce.ac.in
41	8-12-2022 22:42:11	Pattu Monesh	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0327	+919493244	209y5a0327@ksrmce.ac.in
42	8-13-2022 8:53:34	L.M.vinay kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1A0322	8.465E+09	199y1a0322@ksrmce.ac.in
43	8-13-2022 11:45:59	JONNADULASATISH	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0315	7.901E+09	209y5a0315@ksrmce.ac.in
44	8-13-2022 11:46:39	Chaganti sunil kumar reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0304	6.302E+09	199y1a0304@ksrmce.ac.in
45	8-13-2022 11:50:29	Gangala Venkata Prathap	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0310	6.302E+09	199y1a0310@ksrmce.ac.in
46	8-13-2022 11:52:45	Telugu Lakshmanna	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0340	9.346E+09	209y5a0340@ksrmce.ac.in
47	8-13-2022 11:59:06	MEDI REDDY BHARATH R	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0323	9.346E+09	209y5a0323ksrmce.ac.in
48	8-13-2022 12:05:46	Gorla charan kumar reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209y5a0311	6.306E+09	209y5a0311@ksrmce.ac.in
49	8-13-2022 12:06:30	L.Venkata Lokesh	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0320	9.183E+09	209Y5A0320@ksrmce.ac.in
50	8-13-2022 12:19:02	PRODDATURU NAZEER B	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0332	7.076E+09	209Y5A0332@ksrmce.ac.in
51	8-13-2022 12:45:34	BIJJE PURUSHOTHAM	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0303	7.076E+09	209y5a0303@ksrmce.ac.in
52	8-13-2022 12:57:13	Sayyad Mahammad Ali	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209y5a0334	9.667E+09	209y5a0334@ksrmce.ac.in
53	8-13-2022 14:18:24	LINGAMBOTI BHUSHAN	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0321	8.688E+09	209y5a0321ksrmce@ac.in
54	8-14-2022 9:38:54	D Bharath simha reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0307	6.304E+09	199Y1A0307@ksrmce.ac.in
55	8-16-2022 15:51:55	G.Ashok kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0312	9.703E+09	199y1a0312@ksrmce.ac.in
56	8-16-2022 15:53:00	K.Sai Kumar Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0321	6.305E+09	199Y1A0321@ksrmce.ac.in
57	8-16-2022 19:48:17	K manjunath	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0320	9.014E+09	199y1a0320@ksrmce.ac.in
58	8-17-2022 9:10:02	Kapuram Vamsinath Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0315	8.979E+09	199y1a0315@ksrmce.ac.in
59	8-17-2022 9:11:43	Shaik Mohammed Sajid	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0347	9.701E+09	199y1a0347@ksrmce.ac.in
60	8-17-2022 9:13:04	Chepalli amathya	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0305	6.306E+09	199y1a0305@ksrmce.ac.in
61	8-17-2022 9:13:28	M.Siva Sai Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0323	8.297E+09	199y1a0324@ksrmce.ac.in
62	8-17-2022 9:13:36	Palleti vamsidhar reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0334	8.18E+09	199Y1A0334@ksrmce.ac.in
63	8-17-2022 11:45:54	M Charan Reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0330	8.689E+09	199Y1A0330
64	8-17-2022 15:48:12	K. Naveen kumar reddy	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0316	9.551E+09	199y1a0316@ksrmce.ac.in
65	8-17-2022 15:48:15	M.Dinesh Kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0325	9.1E+09	199y1a0325@ksrmce.ac.in
66	8-17-2022 15:58:15	PULAKONDAM BHEEMAIA	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199Y1A0337	8.523E+09	199y1a0337@ksrmce.ac.in
67	8-22-2022 16:06:32	V.Bhargav	K.S.R.M College of Engineerir	Mechanical - 7 th sem	199y1a0357	9.182E+09	199y1a0357ksrmce.ac.in
68	8-24-2022 8:39:37	Kuruva Ajay Kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209y5a0318	9.391E+09	209y5a0318@ksrmce.ac.in
69	8-24-2022 18:32:34	V.sravan kumar	K.S.R.M College of Engineerir	Mechanical - 7 th sem	209Y5A0342	8.008E+09	209y5a0342@ksrmce.ac.in

P. Sreenivas

Professor & Head
Department of Mechanical Engineering
K.S.R.M. College of Engineering
KADAPA - 516 003.

Syllabus of Value Added Course

CourseName: Industrial Safety and Management

Course Objectives:

1. To Understand Need for safety legislation, safety policy.
2. To UnderstandHazardIdentification such as Mechanical, Electrical and Chemical Hazards and Safety inMaterialHandling
3. To Understand the safety in Hazards Machines such as Welding, hot working and cold working.
4. To Understand the Importance of training, conferences, method of Promoting safe practices.

Course Outcomes:

1. Asses theNeed for safety, acts,safety policy and safety standards.
2. Understandthe Methods ofHazardIdentification.
3. Analyze the use ofmaterial handling.
4. Understandthe techniques of safety in various Manufacturing methods.
5. Understandthe Importance of training, need, roll of Government agencies in Industries safety.

Unit–I

IntroductiontoIndustrial Safety

History and development of industrial safety movement, Need for safety,

Safety legislation: Actsandrules, Safety standards and codes,

Safety policy: safety organization, responsibilities and authorities ofdifferentlevels

Unit–II

HazardIdentification:

Identification of hazard, Categorization methods for elimination of hazard,

Mechanical hazards: machineguarding, safety with hand tools/ portable power tools, Pressurevessel hazards and their control

Electricalhazards:classificationsafeworkpractices

Chemicalhazards:laboratorysafety,bulkhandlingofchemicals.

Unit–III

SafetyinMaterialHandling:General safety: consideration in material handling -Ropes, Chains, Sling, Hoops, Clamps,Arresting gears–Prime movers.

Selection,operationandmaintenanceofIndustrialTrucks: MobileCranes–Towercrane,Checklist–Competentpersons.

Unit–IV

SafetyinEngineeringIndustry: Introduction – Safety in Operations of Hazardous Machines– Safety in welding and gas cutting – Safetyin cold forming and hot working of metals – Work Permits for hot work and Cold Work – Safety ofPressurevessels.

Unit–V

SafetyEducationandTraining: Introduction SafetyEducationandTraining

Importanceof training-identification of training needs-training methods – programme,seminars, conferences, competitions –method of promoting safe practice -motivation – communication -role of government agencies and private consulting agencies in safety.

Textbooks

1. GrimaldiandSimonds,SafetyManagement,AITBSPublishers,NewDelhi(2001).
2. R.K.JainandSunilS.Rao,IndustrialSafety,Healthand Environment ManagementSystems,Khannapublishers,NewDelhi(20016).
3. "Industrialsafetymanagement",LMDeshmukh,TATAMcGrawHill,2010.
4. IndustrialSafetyand HealthforInfrastructureServicesCharlesD.Reese·2008

SCHEDULE

Department of Mechanical Engineering
Value Added Course
on
"INDUSTRIAL SAFETY AND MANAGEMENT"

Date	Timing	Course Instructor	Topic to be covered
11/08/2022	2 PM to 6 PM	S. Vijaya Kumar	Introduction to Industrial safety and Management, importance Safety in Industries
12/02/2022	4 PM to 6 PM	S. Vijaya Kumar	History and development of industrial safety movement.
15/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Need for safety** in Industries, Example like "Bhopal Gas leakage" Due to Un safety conditions
16/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Safety legislation:** Acts and rules, Safety standards and codes,
17/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Safety policy:** safety organization, responsibilities and Authorities of different levels
18/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Identification of hazard**, Categorization methods for elimination of hazard,
19/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Mechanical hazards:** machine guarding, safety with hand tools
20/02/2022	2 PM to 6 PM	S. Vijaya Kumar	Machine Hazards on portable power tools, Pressure vessel hazards and their control
22/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Electricalhazards**: classification safe work practice
23/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Chemical hazards: laboratory safety, bulk handling of chemicals.**
24/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Safety in Material Handling**: General safety: consideration in material handling
25/02/2022	4 PM to 6 PM	S. Vijaya Kumar	Ropes, Chains, Sling, Hoops, Clamps, Arresting gears– Prime movers.
26/02/2022	2 PM to 6 PM	S. Vijaya Kumar	**Selection, operation and maintenance of Industrial Trucks:** Mobile Cranes – Tower crane, Checklist – Competent persons.

27/02/2022	4 PM to 6 PM	S. Vijaya Kumar	Safety in Engineering Industry: Introduction – Safety in Operations of Hazardous Machines
29/02/2022	4 PM to 6 PM	S. Vijaya Kumar	Safety in welding and gas cutting – Safety in cold forming and hot working of metals – Work Permits for hot work and Cold Work – Safety of Pressure vessels.
30/02/2022	4 PM to 6 PM	S. Vijaya Kumar	Work Permits for hot work and Cold Work – Safety of Pressure vessels
31/02/2022	4 PM to 6 PM	S. Vijaya Kumar	**Introduction Safety Education and Training** Importance of training-
1/09/2022	4 PM to 6 PM	S. Vijaya Kumar	identification of training needs training methods – programme,
2/09/2022	4 PM to 6 PM	S. Vijaya Kumar	seminars, conferences, competitions –method of promoting safe practice seminars, conferences, competitions –method of promoting safe practice
3/09/2022	4 PM to 6PM	S. Vijaya Kumar	seminars, conferences, competitions –method of promoting safe practice

P. Sreenivas.

Coordinator:
Dr. P. Sreenivas Asso. Professor

HOD

Professor & Head
Department of Mechnical Engineering
K.S.R.M. College of Engineering
KADAPA - 516 003.

K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India– 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

An ISO 14001:2004 & 9001: 2015 Certified Institution

Department of Mechanical Engineering

Attendance sheet of Value Added course on "Industrial Safety and Management" from 11th Aug 2022 to 3rd Sep 2022

Sl.No	Roll No.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
1	199Y5A0323	MAKAM JOSHUA		A																		
2	199Y1A0302	B SRINIDHI SAI	A																			
3	199Y1A0303	BANDI SHIVA REDDY				A																
4	199Y1A0304	CHAGANTI SUNIL KUMAR REDDY						A														
5	199Y1A0305	CHEPPALI AMATHYA								A												
6	199Y1A0306	CHIRUCHAPALA ABDUL SUBAHAN									A											
7	199Y1A0307	D. BHARATH SIMHA REDDY							A										A			
8	199Y1A0310	GANGALA VENKATA PRATHAP														A						
9	199Y1A0311	GANUGAPENTA BHARATH																				
10	199Y1A0312	GODDENDLA ASHOK KUMAR											A									
11	199Y1A0315	K VAMSINATH REDDY										A										

S.No	Roll No.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
11	199Y1A0316	K. NAVEEN KUMAR REDDY	A																A			
12	199Y1A0319	KOTHAPALLE VAMSIDHARREDDY		A																		
13	199Y1A0320	K. MANJUNATH																A				
14	199Y1A0321	KSAIKUMARREDDY														A						
15	199Y1A0322	LMVINAYKUMAR							A					A								
16	199Y1A0323	M. Siva Sai Reddy									A											
17	199Y1A0325	M. Dineshkumar								A												
18	199Y1A0326	M. MYSORAREDDY					A															
19	199Y1A0328	M. JUNAIDBAIG			A																	
20	199Y1A0329	M. SREEKANTH REDDY													A							
21	199Y1A0330	M. CHARANREDDY			A																	
22	199Y1A0334	P. VAMSIDHAR REDDY						A														
23	199Y1A0335	P. RAVI KUMAR									A											

S.No	RollNo.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
24	199Y1A0335	P. KHALEELULLAKHAN	A																	A		
25	199Y1A0337	P. BHEEMAIAH				A																
26	199Y1A0338	R. VEERATEJASWARREDDY							A													
27	199Y1A0341	SHAIK. ABDUL RASHEED										A										
28	199Y1A0343	SHAIK. GHOUSEBASHA													A							
29	199Y1A0344	SHAIK.KURNOOL DADA KHALANDAR																A				
30	199Y1A0345	SHAIK. MAHAMMED MANSOOR												A						A		
31	199Y1A0347	SHAIK. MOHAMMED SAJID		A													A					
32	199Y1A0348	SHAIK. MOHAMMED SHOAIB AKTHAR					A		A													
33	199Y1A0350	SHAIK. ZABEEULLA											A									A
34	199Y1A0352	SUDA. ABHILASH KUMAR REDDY			A																	
35	199Y1A0353	SUNKESULA. BABA SAB									A					A						
36	199Y1A0354	SYED. ASLAM						A											A			

S.No	RollNo.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
37	199Y1A0356	V. BHARGAVA KUMAR REDDY	A	KB	KB	KA	KB	KA	KB	KB	KB	KB	KB	KB	KB	KB	KB	KB	KB	KB	A	KB
38	199Y1A0357	V. BHARGAV	B	B	A	B	B	B	B	B	B	B	B	A	B	B	B	B	B	B	B	B
39	209Y5A0303	B. PURUSHOTHAM	Bo	Bo	Bo	Bo	A	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo	Bo
40	209Y5A0304	BUCHUPALLI. SIVA PRASAD REDDY	Bh	B	Bl	Bl	Bh	A	Bl	Bl	Bl	Bl	Bh	Bl	Bl	Bl	Bl	Bl	Bl	Bl	Bh	Bl
41	209Y5A0307	CH.VENKATA SWAMY SETTY	A	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	Ve	A
42	209Y5A0308	D.SRINIVASULU	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	Sr	A	Sr	Sr	Sr	Sr
43	209Y5A0310	E. Ravi naik	Ra	Ra	Ra	Ra	Ra	Ra	Ra	Ra	Ra	Ra	Ra	Ra	A	Ra	Ra	Ra	Ra	Ra	Ra	Ra
44	209Y5A0311	GORLA. CHARAN KUMARREDDY	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	CB	A	CB	CB	CB	CB	CB
45	209Y5A0314	JAMPANGI.OBULESU	Ja	A	Ja	Ja	Ja	Ja	Ja	Ja	Ja	A	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja	Ja
46	209Y5A0315	JONNADULA. SATISH	S	S	S	A	S	S	S	S	S	S	S	S	A	S	S	S	S	S	S	S
47	209Y5A0316	KOTA .UPENDRAREDDY	UR	UR	UR	UR	UR	UR	UR	UR	UR	UR	A	UR	UR	UR	UR	UR	UR	A	UR	UR
48	209Y5A0317	KUNU.SIVABABJI	Ku	Ku	Ku	Ku	Ku	Ku	Ku	A	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku
49	209Y5A0318	KURUVA .AJAYKUMAR	Ku	Ku	Ku	Ku	Ku	Ku	Ku	Ku	A	Ku	Ku	Ku	Ku	Ku	Ku	Ku	A	Ku	Ku	Ku
50	209Y5A0320	LANKAMSETTY. VENKATALOKESH	VL	VL	VL	VL	VL	VL	A	VL	VL	VL	VL	VL	VL	A	VL	VL	VL	VL	VL	M

S.No	RollNo.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
51	209Y5A0321	LINGAMBOTI. BHUSHAN																A				
52	209Y5A0323	MEDIREDDY. BHARATH REDDY		A													A					
53	209Y5A0325	GORLA.CHARAN KUMAR REDDY								A												
54	209Y5A0326	M.CHENNAKESAVA REDDY							A							A						
55	209Y5A0327	PATTU. MONESH					A															
56	209Y5A0329	PETNIKOTA. ADINARAYANA																	A			
57	209Y5A0331	POREDDY. HARI VARDHANREDDY											A									
58	209Y5A0332	P.NAZEERBASA					A															
59	209Y5A0334	SAYYAD. MAHAMMAD ALI			A						A											
60	209Y5A0336	SHAIK. MAZ AHAMED	A																		A	
61	209Y5A0337	SUNKARI. UDAY KIRAN													A							
62	209Y5A0338	SYED. FAROOQ				A																
63	209Y5A0339	SYED. SAMIUDDIN								A									A			
64	209Y5A0340	TELUGU.LAKSHMANNA												A								A
65	209Y5A0341	THOTA .SATHISHREDDY					A															

S.No	RollNo.	Name	11/8	12/8	15/8	16/8	17/8	18/8	19/8	20/8	22/8	23/8	24/8	25/8	26/8	27/8	29/8	30/8	31/8	1/9	2/9	3/9
66	209Y5A0342	VADDE. SRAVANKUMAR	A	SK	SK	SK	SK	SK	A	SK	SK	SK	SK	SK	A	SK	SK	SK	SK	SK	SK	SK
67	209Y5A0343	YATAGIRI HEMANTH KUMAR	HK	HK	A	HK	HK	HK	HK	HK	A	HK	HK	HK	HK	HK	HK	HK	HK	HK	HK	HK
68	209Y5A0345	YEDUGURU. SHASHI KIRAN REDDY	SK	SK	SK	SK	A	SK	SK	SK	SK	SK	SK	SK	SK	SK	SK	SK	A	SK	SK	SK
69	209Y5A0346	YERRABALLE. VENU	V	V	V	V	V	V	V	V	V	V	V	V	V	A	V	V	V	V	V	V

P. Sreenivas
Coordinator

HOD
Dept of –Mechanical Engg.

Professor & Head
Department of Mechnical Engineering
K.S.R.M. College of Engineering
KADAPA - 516 003.

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DEPARTMENT OF MECHANICAL ENGINEERING

A Value Added Course on

" Industrial Safety and Management "

Department of ME

11-08-2022 to 03- 09-2022

ME Seminar Hall - 103

Coordinator

Dr.P.Sreenivas.
Associate Professor
Mech.Engg.Dept.

Resource person

Sri S. vijaya Kumar.
Assistent Professor
Mech. Engg.Dept

This Certification Course is only for B. Tech VII Sem. Mechanical Students of A&B Sec.

Dr. D. Ravikanth (HOD)	Dr. V.S.S. Murthy (Principal)	Dr. Kandula Chandra Obul Reddy (Managing Director)	Smt. K.Rajeswari (Correspondent Secretary, Tresurer)	Sri K. Madan Mohan Reddy (Vice – Chairman)	Sri K. Raja Mohan Reddy (Chairman)

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Report of
Value Added Course on "Industrial Safety and Management"
From 11/08/2022 to 03/09/2022

Target Group	:	**B. tech VII Sem MechanicalStudents**
Details of Participants	:	**69 Students**
Co-coordinator	:	**Dr.P. Sreenivas, Associate professor**
Resource Person	:	**Sri. S. Vijaya Kumar, Assistant professor**
Organizing Department	:	**Mechanical Engineering**
Venue	:	**Seminar Hall ME-103**

Description:

The Department of Mechanical Engineering conducted a certification course on **"Industrial Safety and Management"** from 11th Aug 2022 to 3rd Sep 2022. The course duration was 36 hours. The course Resource Person Is Sri S. Vijaya Kumar, Assistant Professor and Co-Ordinator Dr.P. Sreenivas Associate Professor Department of Mechanical Engineering, KSRMCE.

The main objective of this course is to introduce the Safety measurements in Industries or Plants those who working in above environments,

To Prevent Accidents in the plant by reducing Hazards to minimum,eliminate accidents caused work stoppage and lost production, achieve lower work compensation, insurance rates and reduce all other direct and indirect costs of accidents, permanent disability loss of income of workers by eliminating causes of accidents and to educate all members of the organization in continuous state of safety mind and to make supervision competent and intensely safety minded.

A safety organization programme consists of systematic procedure by means of which interest is created and maintained and all safety activities are Co-related and directed. The accident prevention is continuous process and hence continuous systematic efforts are necessary

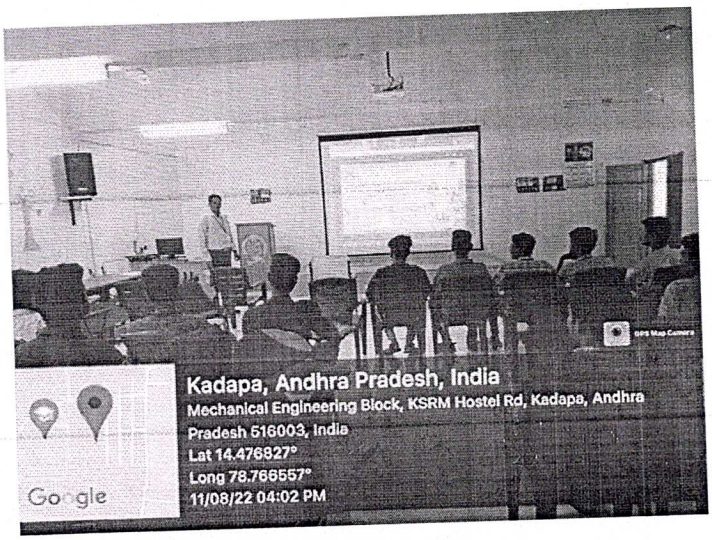
More ever, from managerial perspective the importance safety in any organization may be concluded by following Facilitations are Treatment, Medical Examination, Hazards Identification and provision of protective devices.

Now-a-days serious attentions are being paid to reduce the rate and severity of accident. Health and safety are basic desire and instinct. Industrial safety is mainly concerned with minimizing hazards in the industries. The benefits of industrial accidents prevention have been well-understood and accepted by industries throughout the world. The danger of life of human of human being is increasing with advancement of scientific development in in different fields

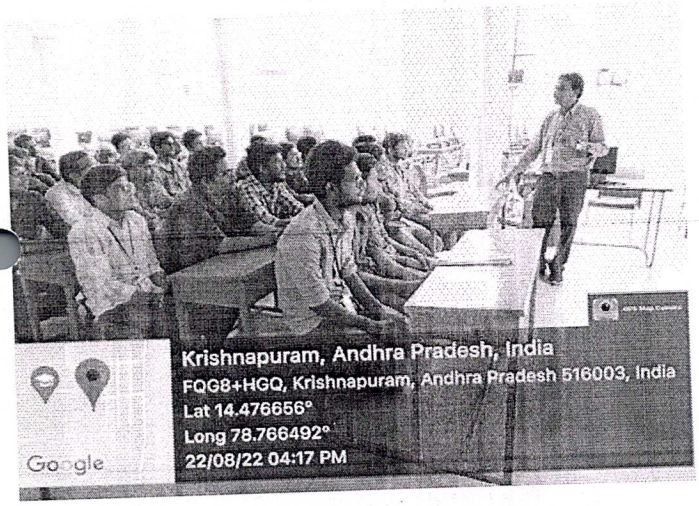
Photos

The pictures taken during the course are given below

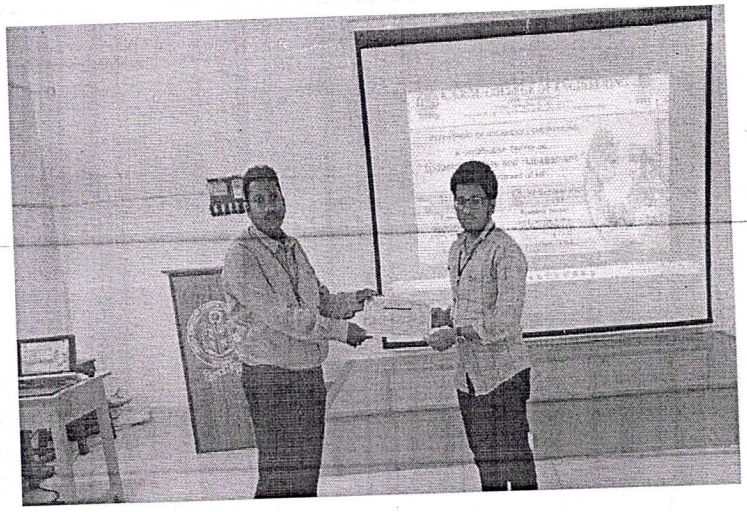
Mechanical Eng.Dept. HOD Dr. D. Ravikhanth Address the gathering



Resource Person Mr. S. Vijaya kumar, Asst. Prof in MED, giving Keynote Address



Participants Keenly Listening the Lecture



Certificates Distribution by the Coordinator Dr. P. Sreenivas, Asso.Prof in MED

P. Sreenivas

Coordinator

HOD

Professor & Head
Department of Mechnical Engineering
K.S.R.M. College of Engineering
KADAPA - 516 003.

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Kadapa, Andhra Pradesh, India– 516 003

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Certificate of Completion

This is to certify that Mr/Mrs. Chiruchapala Abdul subahan Bearing the Roll Number 199Y1A0306 has Successfully Completed Value Added Course on "Industrial safety and management" from 11-08-2022 to 03-09-2022, Organized by Department of Mechanical Engineering, KSRMCE, Kadapa.

P. Sreenivas
Coordinator

HoD ME

V. S. S. Murty
Principal

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Certificate of Completion

This is to certify that Mr/Mrs. Kothapalli Vamsidhar Reddy Bearing the Roll Number 199Y1A0319 has Successfully Completed Value Added Course on "Industrial safety and management" from 11-08-2022 to 03-09-2022, Organized by Department of Mechanical Engineering, KSRMCE, Kadapa.

P. Sreenivas
Coordinator

HoD ME

V. S. S. Murty
Principal

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Certificate of Completion

This is to certify that Mr/Mrs. Shaik Ghouse Basha Bearing the Roll Number 199Y1A0343 has Successfully Completed Value Added Course on "Industrial safety and management" from 11-08-2022 to 03-09-2022, Organized by Department of Mechanical Engineering, KSRMCE, Kadapa.

P. Sreenivas
Coordinator

HoD ME

V. S. S. Murty
Principal

Feedback form on Value Added Course "**Industrial Safety and Management**" From 11-08-2022 to 03-09-2022

* Indicates required question

1. Email *

2. Register number *

3. Name of the student *

4. The objectives of the Value-Added Course objectives were met your expectations *

Mark only one oval.

- A) Excellent
- B) Good
- C) Satisfactory
- D) Poor

5. The content of the course was organized and easy to follow (Delivery) *

Mark only one oval

- A) Excellent
- B) Good
- C) Satisfactory
- D) Poor

6. The Resource Persons were well prepared and able to answer any question (Interaction) *

Mark only one oval.

- A) Excellent
- B) Good
- C) Satisfactory
- D) Poor

7. The exercises/role play were helpful and relevant (Syllabus Coverage) *

Mark only one oval.

- A) Excellent
- B) Good
- C) Satisfactory
- D) Poor

8. The Value-Added Course satisfy my expectation as a value added programme *

Mark only one oval.

- A) Excellent
- B) Good
- C) Satisfactory
- D) Poor

9. Any Issues *

_____

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An ISO 14001:2004 & 9001: 2015 Certified Institution

Department of Mechanical Engineering

Value Added Course on "Industrial Safety and Management"

Feedback Form

S. No	Email ID	Roll NO	Name of the Student	The objectives of the Value-Added Course objectives were met your expectations	The content of the course was organized and easy to follow (Delivery)	The Resource Persons were well prepared and able to answer any question (Interaction)	The exercises/role play were helpful and relevant (Syllabus Coverage)	The Value-Added Course satisfy my expectation as a value added programme	Any Issues
1	199Y5A0323@ksrmce.ac.in	199Y5A0323	MAKAM JOSHUA	Excellent	Excellent	Excellent	Excellent	Excellent	
2	199Y1A0302@ksrmce.ac.in	199Y1A0302	B SRINIDHI SAI	Excellent	Excellent	Excellent	Excellent	Excellent	
3	199Y1A0303@ksrmce.ac.in	199Y1A0303	BANDI SHIVA REDDY	Excellent	Good	Excellent	Excellent	Good	It is useful for us
4	199Y1A0304@ksrmce.ac.in	199Y1A0304	CHAGANTI SUNIL KUMAR REDDY	Good	Good	Good	Good	Good	--
5	199Y1A0305@ksrmce.ac.in	199Y1A0305	CHEPPALI AMATHYA	Excellent	Excellent	Excellent	Good	Excellent	It is useful for us
5	199Y1A0306@ksrmce.ac.in	199Y1A0306	CHIRUCHAPALA ABDUL SUBAHAN	Excellent	Excellent	Excellent	Excellent	Excellent	It is useful for us
6	199Y1A0307@ksrmce.ac.in	199Y1A0307	D. BHARATH SIMHA REDDY	Excellent	Excellent	Excellent	Excellent	Excellent	-

7	199Y1A0310@ksrmce.ac.in	199Y1A0310	GANGALA VENKATA PRATHAP	Excellent	Excellent	Good	Excellent	Good	It is useful for us
8	199Y1A0311@ksrmce.ac.in	199Y1A0311	GANUGAPENTA BHARATH	Good	Good	Excellent	Good	Excellent	No
9	199Y1A0312@ksrmce.ac.in	199Y1A0312	GODDENDLA ASHOK KUMAR	Good	Good	Excellent	Good	Excellent	
10	199Y1A0315@ksrmce.ac.in	199Y1A0315	K VAMSINATHREDDY	Excellent	Excellent	Excellent	Excellent	Good	
11	199Y1A0316@ksrmce.ac.in	199Y1A0316	K. NAVEEN KUMAR REDDY	Excellent	Good	Excellent	Good	Good	It is useful for us
12	199Y1A0319@ksrmce.ac.in	199Y1A0319	KOTHAPALLE VAMSIDHAR REDDY	Good	Excellent	Good	Excellent	Good	
13	199Y1A0320@ksrmce.ac.in	199Y1A0320	K. MANJUNATH	Good	Good	Good	Good	Good	It is useful for us
14	199Y1A0321@ksrmce.ac.in	199Y1A0321	K SAI KUMAR REDDY	Good	Good	Good	Good	Good	--
15	199Y1A0322@ksrmce.ac.in	199Y1A0322	L M VINAY KUMAR	Excellent	Excellent	Excellent	Excellent	Excellent	It is useful for us
16	199Y1A0323@ksrmce.ac.in	199Y1A0323	M. Siva Sai Reddy	Excellent	Excellent	Excellent	Excellent	Excellent	
17	199Y1A0325@ksrmce.ac.in	199Y1A0325	M. Dinesh kumar	Excellent	Excellent	Good	Excellent	Excellent	
18	199Y1A0326@ksrmce.ac.in	199Y1A0326	M. MYSORA REDDY	Excellent	Excellent	Excellent	Good	Good	It is useful for us
19	199Y1A0328@ksrmce.ac.in	199Y1A0328	M. JUNAIDBAIG	Good	Good	Excellent	Good	Good	
20	199Y1A0329@ksrmce.ac.in	199Y1A0329	M.SREEKANTH REDDY	Excellent	Good	Excellent	Good	Excellent	
21	199Y1A0330@ksrmce.ac.in	199Y1A0330	M. CHARANREDDY	Good	Good	Good	Good	Good	--
22	199Y1A0334@ksrmce.ac.in	199Y1A0334	P. VAMSIDHAR REDDY	Excellent	Good	Excellent	Excellent	Excellent	It is useful for us
23	199Y1A0335@ksrmce.ac.in	199Y1A0335	P. RAVI KUMAR	Excellent	Excellent	Excellent	Excellent	Excellent	-
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26	199Y1A0338@ksrmce.ac.in	199Y1A0338	R. VEERA TEJASWAR REDDY	Good	Excellent	Good	Excellent	Good	--
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32	199Y1A0348@ksrmce.ac.in	199Y1A0348	MOHAMMED SHOAIB AKTHAR	Excellent	Good	Good	Good	Excellent	It is useful for us
33	199Y1A0350@ksrmce.ac.in	199Y1A0350	SHAIK ZABEEULLA	Good	Excellent	Excellent	Good	Good	
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35	199Y1A0353@ksrmce.ac.in	199Y1A0353	SUNKESULA BABA SAB	Excellent	Excellent	Good	Excellent	Excellent	
36	199Y1A0354@ksrmce.ac.in	199Y1A0354	SYED ASLAM	Good	Good	Excellent	Good	Good	No
37	199Y1A0356 @ksrmce.ac.in	199Y1A0356	V.BHARGAVA KUMAR	Good		Good	Good	Good	
38	199Y1A0357@ksrmce.ac.in	199Y1A0357	REDDY	Excellent	Excellent	Excellent	Excellent	Excellent	
39	209Y5A0303@ksrmce.ac.in	209Y5A0303	V. BHARGAV	Good	Good	Good	Good	Good	
40	209Y5A0304@ksrmc e.ac.in	209Y5A0304	B. PURUSHOTHAM	Good	Good	Good	Good	Good	Nothing
41	209Y5A0307@ksrmce.ac.in	209Y5A0307	CH. VENKATA SWAMY SETTY	Excellent	Excellent	Excellent	Excellent	Excellent	
42	209Y5A0308@ksrmce.ac.in	209Y5A0308	D.SRINIVASULU	Good	Good	Good	Good	Good	It is useful for us
43	209Y5A0310@ksrmce.ac.in	209Y5A0310		Good	Good	Good	Good	Good	--
44	209Y5A0311@ksrmce.ac.in	209Y5A0311	GORLA CHARAN KUMAR REDDY	Excellent	Excellent	Excellent	Excellent	Excellent	It is useful for us
45	209Y5A0314@ksrmce.ac.in	209Y5A0314	JAMPANGIOBULESU	Good	Good	Good	Excellent	Good	
46	209Y5A0315@ksrmce.ac.in	209Y5A0315	JONNADULA SATISH	Excellent	Excellent	Good	Excellent	Excellent	Nothing
47	209Y5A0316@ksrmce.a c.in	209Y5A0316	KOTA UPENDRAREDDY	Good	Good	Excellent	Good	Good	
48	209Y5A0317@ksrmce.ac.in	209Y5A0317	KUNU SIVA BABJI	Excellent	Good	Excellent	Good	Good	
49	209Y5A0318@ksrmce.ac.in	209Y5A0318	KURUVA AJAYKUMAR	Excellent	Excellent	Excellent	Excellent	Excellent	
50	209Y5A0320@ksr mce.ac.in	209Y5A0320	LANKAMSETTY VENKATA LOKESH	Good	Excellent	Good	Good	Good	Ok
51	209Y5A0321@ksrmce.ac.in	209Y5A0321	LINGAMBOTI BHUSHAN	Excellent	Excellent	Excellent	Excellent	Excellent	It is useful for us
52	209Y5A0323@ksrmce.ac.in	209Y5A0323	MEDIREDDY BHARATH REDDY	Excellent	Excellent	Good	Good	Good	

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56	209Y5A0329@ksrmce.ac.in	209Y5A0329	PETNIKOTA ADINARAYANA	Excellent	Excellent	Excellent	Excellent	Excellent	
57	209Y5A0331@ksrmce.ac.in	209Y5A0331	POREDDY HARI VARDHAN REDDY	Excellent	Excellent	Good	Good	Good	
58	209Y5A0332@ksrmce.ac.in	209Y5A0332	PRODDATURU NAZEER BASHA	Excellent	Good	Excellent	Good	Excellent	
59	209Y5A0334@ksrmce.ac.in	209Y5A0334	SAYYAD MAHAMMAD ALI	Excellent	Excellent	Good	Satisfactory	Good	Nothing
60	209Y5A0336@ksrmce.ac.in	209Y5A0336	SHAIK MAZAHAMED	Excellent	Excellent	Excellent	Excellent	Excellent	
61	209Y5A0337@ksrmce.ac.in	209Y5A0337	SUNKARI UDAY KIRAN	Good	Good	Excellent	Excellent	Excellent	
62	209Y5A0338@ksrmce.ac.in	209Y5A0338	SYED FAROOQ	Excellent	Excellent	Excellent	Good	Excellent	
63	209Y5A0339@ksrmce.ac.in	209Y5A0339	SYED SAMIUDDIN	Excellent	Excellent	Good	Good	Good	
64	209Y5A0340@ksrmce.ac.in	209Y5A0340	TELUGU LAKSHMANNA	Excellent	Excellent	Excellent	Excellent	Excellent	Nothing
65	209Y5A0341@ksrmce.ac.in	209Y5A0341	THOTA SATHISHREDDY	Good	Excellent	Good	Excellent	Good	
66	209Y5A0342@ksrmce.ac.in	209Y5A0342	VADDE SRAVANKUMAR	Good	Good	Excellent	Satisfactory	Satisfactory	
67	209Y5A0343@ksrmce.ac.in	209Y5A0343	YATAGIRI HEMANTH KUMAR	Excellent	Good	Excellent	Good	Excellent	
68	209Y5A0345@ksrmce.ac.in	209Y5A0345	YEDUGURU SHASHI KIRAN REDDY	Good	Good	Good	Excellent	Good	
69	209Y5A0346@ksrmce.ac.in	209Y5A0346	YERRABALLE VENU	Excellent	Excellent	Excellent	Good	Good	

P. Sreenivas.
Coordinator

HOD

Professor & Head
Department of Mechnical Engineering
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KADAPA - 516 003.

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516003
DEPARTMENT OF MECHANICAL ENGINEERING
VALUE ADDED COURSE ON
INDUSTRIAL SAFETY & MANAGEMENT
FROM 11/08/2022 TO 03/09/2022
AWARD LIST

S.No	Roll Number	Name of the Student	Marks Obtained
1	199Y5A0323	Makam Joshua	12
2	199Y1A0302	B Srinidhi Sai	13
3	199Y1A0303	Bandi Shiva Reddy	13
4	199Y1A0304	Chaganti Sunil Kumar Reddy	13
5	199Y1A0305	Cheppali Amathya	14
6	199Y1A0306	Chiruchapala Abdul Subahan	13
7	199Y1A0307	D. Bharath Simha Reddy	14
8	199Y1A0310	Gangala Venkata Prathap	14
9	199Y1A0311	Ganugapenta Bharath	13
10	199Y1A0312	Goddendla Ashok Kumar	14
11	199Y1A0316	K. Naveen Kumar Reddy	12
12	199Y1A0319	Kothapalle Vamsidhar Reddy	`13
13	199Y1A0320	K. Manjunath	13
14	199Y1A0321	K Sai Kumar Reddy	13
15	199Y1A0322	L M Vinay Kumar	14
16	199Y1A0323	M. Siva Sai Reddy	13
17	199Y1A0325	M. Dinesh Kumar	14
18	199Y1A0326	M. Mysora Reddy	14
19	199Y1A0328	M. Junaid Baig	13
20	199Y1A0329	M.Sreekanth Reddy	14
21	199Y1A0330	M. Charan Reddy	12
22	199Y1A0334	P. Vamsidhar Reddy	13
23	199Y1A0335	P. Ravi Kumar	12
24	199Y1A0336	P. Khaleelulla Khan	12
25	199Y1A0337	P. Bheemaiah	13
26	199Y1A0338	R. Veera Tejaswar Reddy	14

27	199Y1A0341	Shaik Abdul Rasheed	12
28	199Y1A0343	Shaik Ghouse Basha	12
29	199Y1A0344	Shaik Kurnool Dada Khalandar	13
30	199Y1A0345	Shaik Mahammed Mansoor	12
31	199Y1A0347	Shaik Mohammed Sajid	`13
32	199Y1A0348	Shaikmohammed Shoaib Akthar	13
33	199Y1A0350	Shaik Zabeeulla	13
34	199Y1A0352	Suda Abhilash Kumar Reddy	14
35	199Y1A0353	Sunkesula Baba Sab	13
36	199Y1A0354	Syed Aslam	14
37	199Y1A0356	V.Bhargava Kumar Reddy	14
38	199Y1A0357	V. Bhargav	13
39	209Y5A0303	B. Purushotham	14
40	209Y5A0304	Buchupalli Siva Prasad Reddy	12
41	209Y5A0307	Ch. Venkata Swamy Setty	12
42	209Y5A0308	D.Srinivasulu	12
43	209Y5A0310	E. Ravi Naik	13
44	209Y5A0311	Gorla Charan Kumar Reddy	12
45	209Y5A0314	Jampangi Obulesu	13
46	209Y5A0315	Jonnadula Satish	13
47	209Y5A0316	Kota Upendra Reddy	12
48	209Y5A0317	Kunu Siva Babji	13
49	209Y5A0318	Kuruva Ajay Kumar	14
50	209Y5A0320	Lankamsetty Venkata Lokesh	13
51	209Y5A0321	Lingamboti Bhushan	14
52	209Y5A0323	Medireddy Bharath Reddy	14
53	209Y5A0325	Gorla Charan Kumar Reddy	14

54	209Y5A0326	M.Chennakesava Reddy	13
55	209Y5A0327	Pattu Monesh	14
56	209Y5A0329	Petnikota Adinarayana	13
57	209Y5A0331	Poreddy Hari Vardhan Reddy	12
58	209Y5A0332	P. Nazeer Basha	12
59	209Y5A0334	Sayyad Mahammad Ali	13
60	209Y5A0336	Shaik Maz Ahamed	12
61	209Y5A0337	Sunkari Uday Kiran	13
62	209Y5A0338	Syed Farooq	13
63	209Y5A0339	Syed Samiuddin	14
64	209Y5A0340	Telugu Lakshmanna	13
65	209Y5A0341	Thota Sathishreddy	14
66	209Y5A0342	Vadde Sravan Kumar	13
67	209Y5A0343	Yatagiri Hemanth Kumar	12
68	209Y5A0345	Yeduguru Shashi Kiran Reddy	12
69	209Y5A0346	Yerraballe Venu	14

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ASSESSMENT TEST

Roll Number: 19Y1A0314 **Name of the Student:** G. Bhaleth

Time: 20 Min **(Objective Questions)** **Max.Marks: 20**

Note: Answer the following Questions and each question carries **one** mark.

1. How many points of contact should you maintain with a ladder at all times
A. At least two
B. At least three
C. One
D. Four
[B] ✓

2. How often should ladders be inspected?
A. Before each use
B. Once a week
C. Once a month
D. Every 6 months
[A] ✓

3. OSHA prohibits working on a scaffold in the presence of winds above:
A. 10 mph
B. 20 m
C. 30 mph
D. 40 mph
[C] ✗

4. Ladders should be angled so that the its base is one foot out from the wall for each_____feet of a ladder's height.
A. 2
B. 4
C. 8
D. 10
[B] ✓

5. If you fall, you should always try and break your fall with your hands.
A. True
B. False
[B] ✓

6. OSHA restricts ladders from being higher than:
A. 20 feet
B. 15 feet
C. 12 feet
D. 10 feet
[A] ✓

7 If you are driving a forklift and it begins to tip over, you should [C] ✓

A. Jump out immediate
B. Stay in the vehicle with your seatbelt unfastened
C. Stay in the vehicle with your seatbelt fastened
D. Stand up with a tight grip on the steering wheel

8 A forklift or industrial truck is unattended if the operator is: [C] ✗

A. More than 25 feet away from the vehicle
B. More than 18 feet away from the vehicle
C. More than 8 feet away from the vehicle
D. More than 3 feet away from the vehicle

9 Which of the following information is *not* found on a forklift nameplate? [A] ✗

A. Fuel type
B. Load capacity
C. Names of licensed operators
D. Weight of the forklift

10 While carrying a load downhill on a forklift, you should: [B] ✓

A. Zig-zag down the hill slowly
B. Drive forward with the fork pointing downhill
C. Drive in reverse with the fork pointing uphill
D. None of the above

11. How many workers were killed on the job in 2012 [B] ✗

A. 46
B. 462
C. 4,628
D. 46,280

12. What violations are most commonly cited by OSHA? [C] ✓

A. Hazard communications
B. Scaffolding
C. Fall protection
D. Respiratory protection

13. What is the leading cause of death on construction sites? [B] ✓

A. Struck by object
B. Falls
C. Caught-in or -between
D. Electrocutions

14. The following symbol is used when something in your workplace is [B] ✓

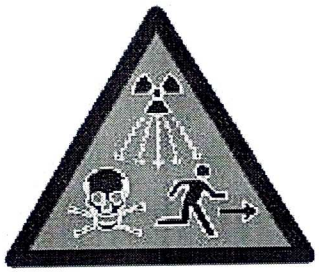
A. Chemical Weapon
B. Biohazard
C. Toxic Substance
D. Radiation Danger

15. Which of the following is not a chemical-related health hazard? [C] ✗
A. Carcinogenicity
B. Reactivity
C. Corrosivity
D. Toxicity

16. A container holding a hazardous material must include which of the following as of June 15, 2014: [D] ✓
A. Identity of the hazardous chemical only
B. Identity of the hazardous chemical, instructions on how to use
C. Identify of the hazardous chemical, names of employees authorized to use
D. None of the above

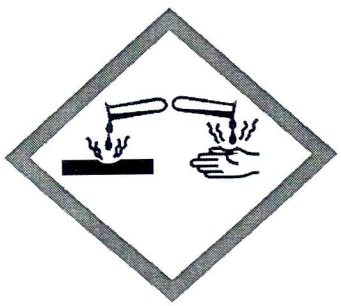
17. If you wanted to convey the most severe type of hazard, which word would you use?
A. Warning [C] ✓
B. Notice
C. Danger
D. Caution

18. This symbol means which of the following : [B] X



A. Danger, ionizing radiation
B. Danger, how-hanging and powerful fan
C. Danger, risk of frostbite
D. None of the above

19. This hazard symbol is used when something is [E] ✓



E. Corrosive
F. Almost empty
G. Flammable
H. Highly Acidic

20. If you transfer chemicals from a labeled container to a portable container, you don't need to comply with standard hazardous material labeling requirement when [C] X

A. You hand the container off to someone else
B. You leave the work area before using the materials
C. You don't use the materials before the end of your work shift
D. None of the above

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ASSESSMENT TEST

12

Roll Number: 209Y5A0316 **Name of the Student:** K. Upendra Reddy

Time: 20 Min **(Objective Questions)** **Max.Marks: 20**

Note: Answer the following Questions and each question carries **one** mark.

1. How many points of contact should you maintain with a ladder at all times
A. At least two
B. At least three
C. One
D. Four
[A] ✗

2. How often should ladders be inspected?
A. Before each use
B. Once a week
C. Once a month
D. Every 6 months
[A] ✓

3. OSHA prohibits working on a scaffold in the presence of winds above:
A. 10 mph
B. 20 m
C. 30 mph
D. 40 mph
[C] ✗

4. Ladders should be angled so that the its base is one foot out from the wall for each_____feet of a ladder's height.
A. 2
B. 4
C. 8
D. 10
[B] ✓

5. If you fall, you should always try and break your fall with your hands.
A. True
B. False
[B] ✓

6. OSHA restricts ladders from being higher than:
A. 20 feet
B. 15 feet
C. 12 feet
D. 10 feet
[A] ✓

7 If you are driving a forklift and it begins to tip over, you should [C] ✓

A. Jump out immediate
B. Stay in the vehicle with your seatbelt unfastened
C. Stay in the vehicle with your seatbelt fastened
D. Stand up with a tight grip on the steering wheel

8 A forklift or industrial truck is unattended if the operator is: [B] ✗

A. More than 25 feet away from the vehicle
B. More than 18 feet away from the vehicle
C. More than 8 feet away from the vehicle
D. More than 3 feet away from the vehicle

9 Which of the following information is *not* found on a forklift nameplate? [C] ✓

A. Fuel type
B. Load capacity
C. Names of licensed operators
D. Weight of the forklift

10 While carrying a load downhill on a forklift, you should: [C] ✗

A. Zig-zag down the hill slowly
B. Drive forward with the fork pointing downhill
C. Drive in reverse with the fork pointing uphill
D. None of the above

11. How many workers were killed on the job in 2012 [B] ✗

A. 46
B. 462
C. 4,628
D. 46,280

12. What violations are most commonly cited by OSHA? [C] ✓

A. Hazard communications
B. Scaffolding
C. Fall protection
D. Respiratory protection

13. What is the leading cause of death on construction sites? [B] ✓

A. Struck by object
B. Falls
C. Caught-in or -between
D. Electrocutions

14. The following symbol is used when something in your workplace is [C] ✗

A. Chemical Weapon
B. Biohazard
C. Toxic Substance
D. Radiation Danger

15. Which of the following is not a chemical-related health hazard? [B] ✓
A. Carcinogenicity
B. Reactivity
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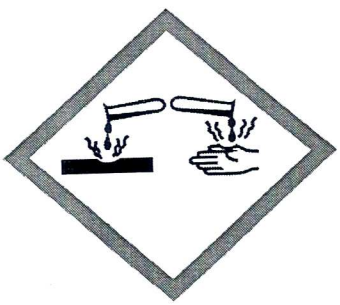
16. A container holding a hazardous material must include which of the following as of June 15, 2014:
[C] ✗
A. Identity of the hazardous chemical only
B. Identity of the hazardous chemical, instructions on how to use
C. Identify of the hazardous chemical, names of employees authorized to use
D. None of the above

17. If you wanted to convey the most severe type of hazard, which word would you use?
A. Warning
[C] ✓
B. Notice
C. Danger
D. Caution

18. This symbol means which of the following : [B]

A. Danger, ionizing radiation
B. Danger, how-hanging and powerful fan
C. Danger, risk of frostbite
D. None of the above

19. This hazard symbol is used when something is [E]



E. Corrosive
F. Almost empty
G. Flammable
H. Highly Acidic

20. If you transfer chemicals from a labeled container to a portable container, you don't need to comply with standard hazardous material labeling requirement when [D]

A. You hand the container off to someone else
B. You leave the work area before using the materials
C. You don't use the materials before the end of your work shift
D. None of the above

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ASSESSMENT TEST

Roll Number: 19Y1A0358 Name of the Student: V. BHARGAV

Pay 13

Time: 20 Min **(Objective Questions)** **Max.Marks: 20**

Note: Answer the following Questions and each question carries **one** mark.

1. How many points of contact should you maintain with a ladder at all times
A. At least two
B. At least three
C. One
D. Four
[C] X

2. How often should ladders be inspected?
A. Before each use
B. Once a week
C. Once a month
D. Every 6 months
[A] ✓

3. OSHA prohibits working on a scaffold in the presence of winds above:
A. 10 mph
B. 20 m
C. 30 mph
D. 40 mph
[C] X

4. Ladders should be angled so that the its base is one foot out from the wall for each_____feet of a ladder's height.
A. 2
B. 4
C. 8
D. 10
[B] ✓

5. If you fall, you should always try and break your fall with your hands.
A. True
B. False
[C] X

6. OSHA restricts ladders from being higher than:
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B. 15 feet
C. 12 feet
D. 10 feet
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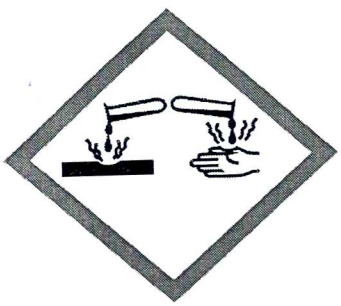


E. Corrosive
F. Almost empty
G. Flammable
H. Highly Acidic

20. If you transfer chemicals from a labeled container to a portable container, you don't need to comply with standard hazardous material labeling requirement when [C] ✗

A. You hand the container off to someone else
B. You leave the work area before using the materials
C. You don't use the materials before the end of your work shift
D. None of the above

Background of the Bhopal Gas Tragedy

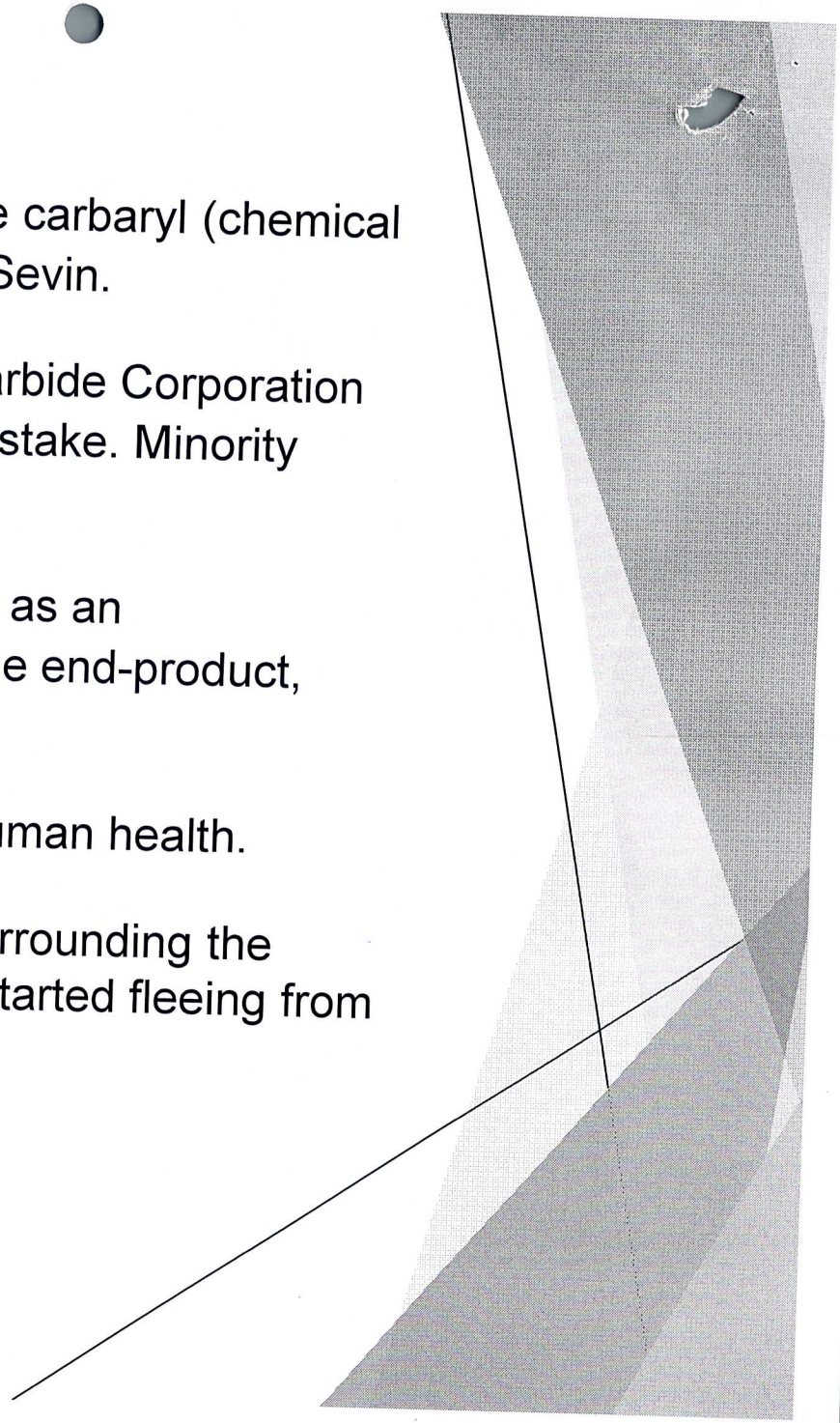
UCIL was a pesticide plant which manufactured the pesticide carbaryl (chemical name: 1-naphthyl methylcarbamate) under the brand name Sevin.

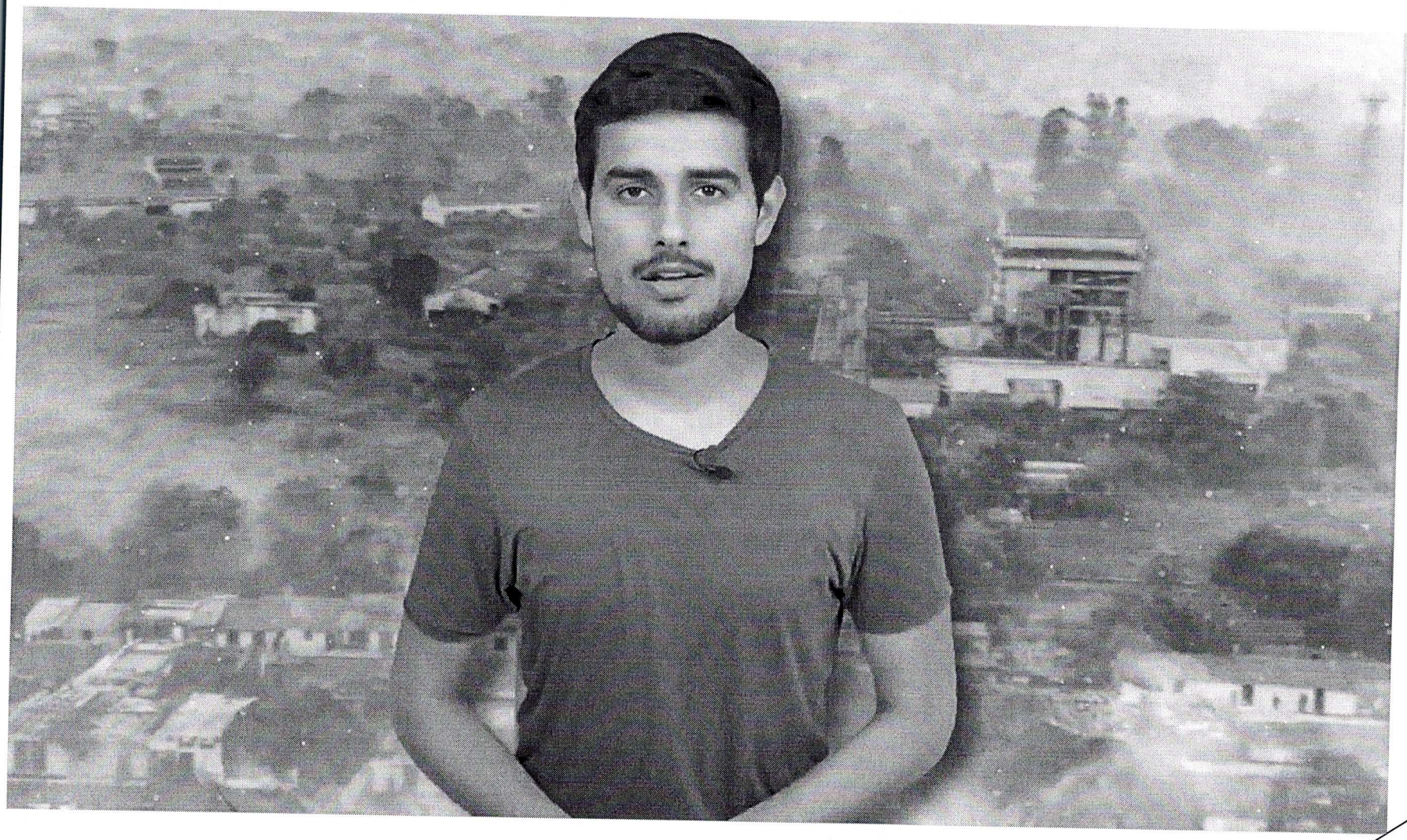
Carbaryl was discovered by an American company Union Carbide Corporation (UCC) which was UCIL's parent company holding a majority stake. Minority stakes were held by Indian banks and the public.

UCIL manufactured carbaryl using **methyl isocyanate (MIC)** as an intermediate. Although there are other methods to produce the end-product, they cost more.

MIC is a highly toxic chemical and extremely dangerous to human health.

Around midnight of 2 December 1984, residents of Bhopal surrounding the pesticide plant began to feel the irritating effects of MIC and started fleeing from the city. However, thousands were dead by morning





Facilitation of Industrial safety

More ever, from managerial perspective the importance of industrial safety in any nization may be concluded by following facilitation:

1. Treatment: industrial safety management provides treatment for injuries and illness at the work place.
2. Medical Examination: it carries out medical examination of staff joining the organization or returning to work after sickness or accident.
3. Hazards identification.
4. Provision of protective devices.
5. Consultancy: it provides medical advised on other condition potentially affecting health e.g. works canteen etc.
6. Education: it provides safety and health training

ectives of industrial safety:

Objectives of Industrial Safety

1. To prevent accidents in the plant by reducing the hazard to minimum.
2. To eliminate accident caused work stoppage and lost production.
3. To achieve lower workmen's compensation, insurance rates and reduce all other direct and indirect costs of accidents.
4. To prevent loss of life, permanent disability and the loss of income of worker by eliminating causes of accidents.
5. To evaluate employee's morale by promoting safe work place and good working condition.
6. To educate all members of the organization in continuous state of safety mind and to make supervision competent and intensely safety minded.

A safety programmed includes mainly following four E's.

- Engineering: i.e. safety at the design, equipment installation stage.
- Education: i.e. education of employees in safe practices.
- Enlistment: It concerns the attitude of the employees and management towards the programmed and its purpose. It is necessary to arise the interest of employees in accident prevention and safety consciousness.
- Encouragement: i.e. to enforce adherence to safe rules and practices

General Safety Rules

- All injuries must be reported as soon as possible.
- No horseplay, alcohol, or drugs allowed on premises.
- No alcohol usage allowed during lunch break.
- PPE must be worn as prescribed by management.
- All tools/equipment must be maintained in good condition.
- Only appropriate tools shall be used for specific jobs.
- All guards must be kept in place.
- No spliced electrical cords/wiring allowed.
- Only authorized personnel can operate forklift vehicles.
- Smoking allowed only in lunchroom.
- Seat belt use required of all drivers/passengers.
- All Safety Standards will be followed for job processes requiring respiratory protection.

Safety Organization

SAFETY ORGANIZATIONS

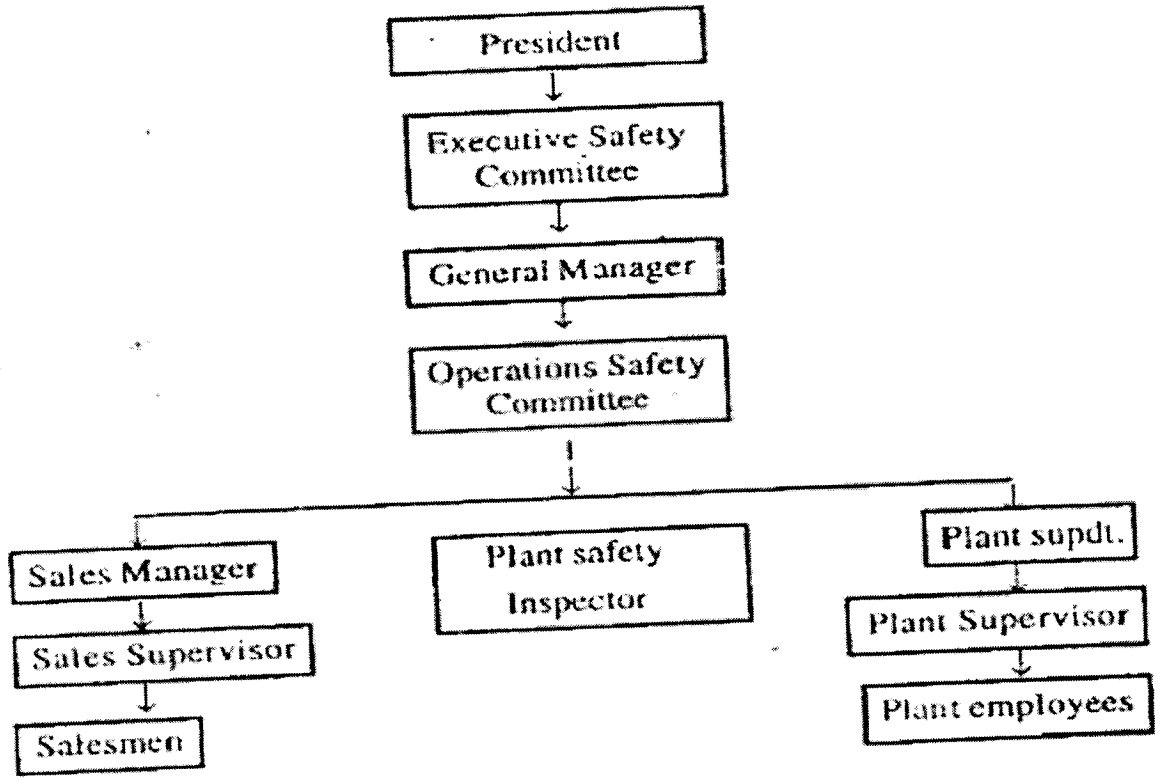
A safety organization consists of a systematic procedure by means of which interest is created and maintained and all safety activities are co-related and directed. The accident prevention is a continuing process and hence continuous systematic efforts are necessary.

The basic objectives of safety organization are:

(i) Creating and maintaining interest.
(ii) Fact finding through periodical inspections and surveys of structures, machine tools, equipment, processes and employee procedures, accident investigation and analysis.
(iii) Selection of remedies and corrective action with regard to unsafe acts and conditions based upon the found facts.

The organization setup depends upon the size and complexities of the industries. In small industry foreman or supervisor may be responsible for achievement of all the objectives of safety. Whereas in large industries the number of positions may be involved in

the organization set up. A typical organization structure for a manufacturing g concern employing 1000 workers is shown in the figure.



The Organization set up consists of:

1. Executive safety committee.
2. Operations safety committee.

Hazardous chemical

A material that has physical or chemical characteristic of potential for causing harm

- human injury,
- damage to property,
- damage to environment
- or some combination of these is known as hazardous chemical.

TYPES OF CHEMICAL HAZARD

- HEALTH HAZARD
- PHYSICAL HAZARD

PHYSICAL HAZARD

- Flammable gases
- Flammable aerosols
- Oxidizing gases
- Gases under pressure
- Flammable liquids
- Flammable solids
- Self-reactive substances and mixtures
- Pyrophoric liquids
- contact with water, emit flammable gases
- Oxidizing liquids
- Oxidizing solids
- Organic peroxides
- Corrosive to metals
- Combustible dusts
- Pyrophoric gases

HEALTH HAZARD

- Acute toxicity
- Skin corrosion/irritation
- Serious eye damage/eye irritation
- Respiratory or skin sensitization
- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity – single exposure
- Specific target organ toxicity – repeated exposure
- Aspiration hazard
- Bio hazardous infectious materials

The effect a certain chemical depends on several factors

- The routes of entry
- The physical properties of the substances
- Work practices
- The nature of the exposure
- Combined exposures
- The susceptibility of workers
- Toxicity

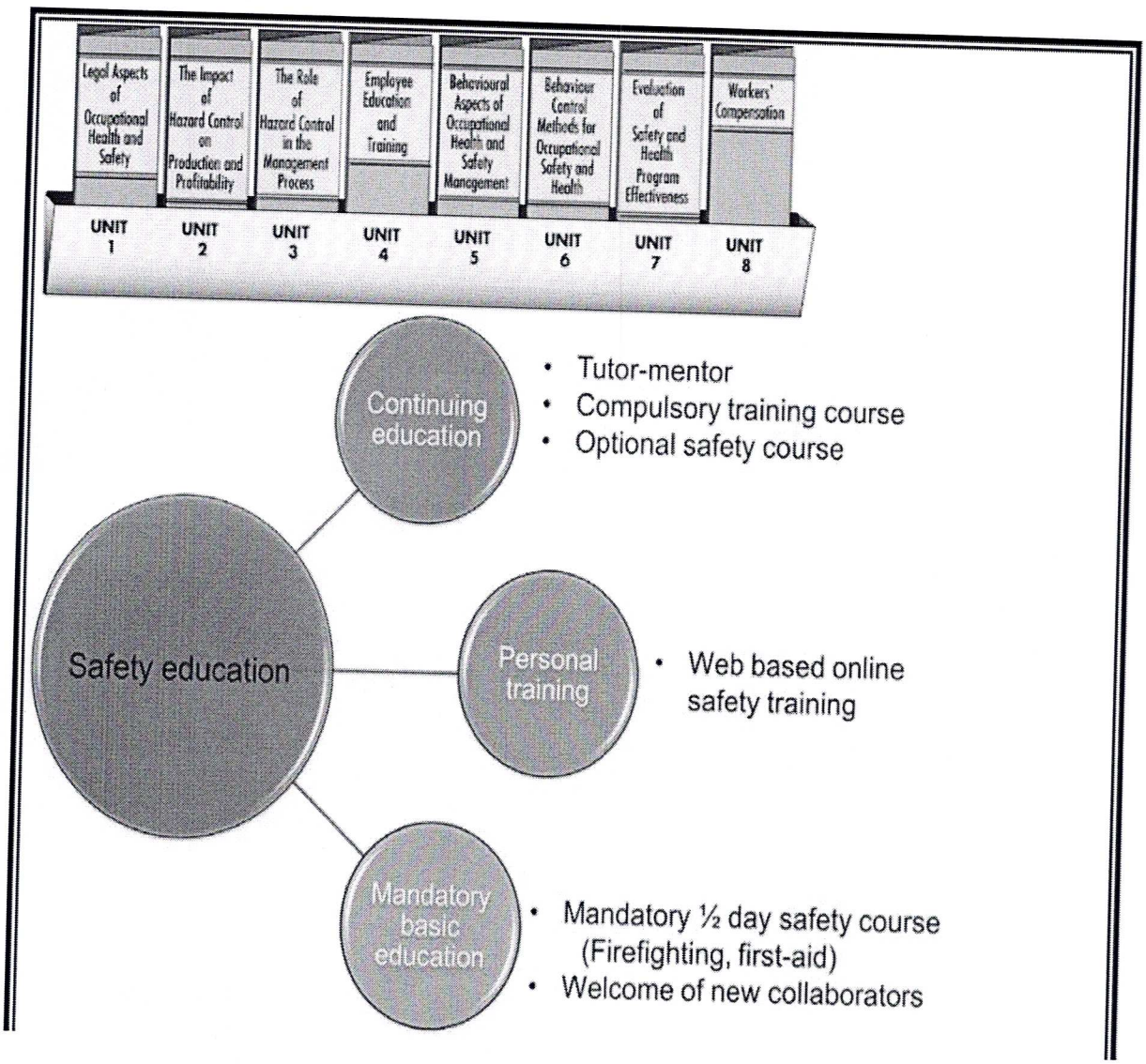
Effect Of Chemicals

- Irritation
- Allergies
- Lack of oxygen
- Systemic poisoning
- Cancer
- Damage to the unborn fetus
- Effects on the future generations
- Pneumoconiosis (Dusty lung)

Education and training in safety:

Safety training and education creates consciousness and develops alertness to safety. Safety education develops safety –mindedness while training helps apply acquired safety knowledge to the specific job or task or procedure.

Just as safety engineering is the most effective way of preventing environmental causes, safety education is the most effective tool in the preventive of human causes of accidents. Through adequate safety instructions, personnel gain useful knowledge and develop safe attitudes.



Education and Training

Education and training are important tools for informing workers and managers about workplace hazards and controls so they can work more safely and be more productive. Another role of education and training, however, is to provide workers and managers with a greater understanding of the safety and health program itself, so that they can contribute to its development and implementation.

Education and training provides employers, managers, supervisors, and workers with:

- Knowledge and skills needed to do their work safely and avoid creating hazards that could place themselves or others at risk.
- Awareness and understanding of workplace hazards and how to identify, report, and control them.
- Specialized training, when their work involves unique hazards.

Additional training may be needed depending on the roles assigned to employers or individual managers, supervisors, and workers. For example, employers, managers, and supervisors may need specific training to ensure that they can fulfill their roles in providing leadership, direction, and resources for the safety and health program. Workers assigned specific roles in the program (e.g., incident investigation team members) may need training to ensure their full participation in those functions.

Effective training and education can be provided outside a formal classroom setting. Peer-to-peer training, on-the-job training, and worksite demonstrations can be effective in conveying safety concepts, ensuring understanding of hazards and their controls, and promoting good work practices.

Action item 1: Provide program awareness training

Action Item 2: Train employers, managers and supervisors on their roles in the program Action item 3: Train workers on their specific roles in the safety and health program Action item 4: Train workers on hazard identification and controls

Action item 1: Provide program awareness training

Managers, supervisors, and workers all need to understand the program's structure, plans, and procedures. Having this knowledge ensures that everyone can fully participate in developing, implementing, and improving the program.

How to accomplish it

- Provide training to all managers, supervisors, workers, and contractor, subcontractor, and temporary agency workers on:
  - Safety and health policies, goals, and procedures
  - Functions of the safety and health program
  - Whom to contact with questions or concerns about the program (including contact information)
  - How to report hazards, injuries, illnesses, and close calls/near misses
  - What to do in an emergency
  - The employer's responsibilities under the program
  - Workers' rights under the Occupational Safety and Health Act
- Provide information on the safety and health hazards of the workplace and the controls for those hazards.
- Ensure that training is provided in the language(s) and at a literacy level that all workers can understand.
- Emphasize that the program can only work when everyone is involved and feels comfortable discussing concerns; making suggestions; and reporting injuries, incidents, and hazards.
- Confirm, as part of the training, that all workers have the right to report injuries, incidents, hazards, and concerns and to fully participate in the program without fear of retaliation.

Action item 2: Train employers, managers, and supervisors on their roles in the program

Employers, managers, and supervisors are responsible for workers' safety, yet sometimes have little training on safety-related concepts and techniques. They may benefit from specific training that allows them to fulfill their leadership roles in the program.

How to accomplish it

- Reinforce employers, managers, and supervisors' knowledge of their responsibilities under the Occupational Safety and Health Act and the workers' rights guaranteed by the Act.
- Train employers, managers, and supervisors on procedures for responding to workers' reports of injuries, illnesses, and incidents, including ways to avoid discouraging reporting.
- Instruct employers, managers, and supervisors on fundamental concepts and techniques for

recognizing hazards and methods of controlling them, including the hierarchy of controls (see "Hazard Prevention and Control"). Instruct employers, managers, and supervisors on incident investigation techniques, including root cause analysis.

Action item 3: Train workers on their specific roles in the safety and health program

Additional training may be needed to ensure that workers can incorporate any assigned safety and health responsibilities into their daily routines and activities.

How to accomplish it

- Instruct workers on how to report injuries, illnesses, incidents, and concerns. If a computerized reporting system is used, ensure that all employees have the basic computer skills and computer access sufficient to submit an effective report.
- Instruct workers assigned specific roles within the safety and health program on how they should carry out those responsibilities, including:
  - Hazard recognition and controls (see action item 4)
  - Participation in incident investigations
  - Program evaluation and improvement
- Provide opportunities for workers to ask questions and provide feedback during and after the training.
- As the program evolves, institute a more formal process for determining the training needs of workers responsible for developing, implementing, and maintaining the program.

Action item 4: Train workers on hazard identification and controls

Providing workers with an understanding of hazard recognition and control and actively involving them in the process can help to eliminate hazards before an incident occurs.

How to accomplish it

- Train workers on techniques for identifying hazards, such as job hazard analysis.
- Train workers so they understand and can recognize the hazards they may encounter in their own jobs, as well as more general work-related hazards.
- Instruct workers on concepts and techniques for controlling hazards, including the hierarchy of controls and its importance.
- Train workers on the proper use of work practice and administrative controls.
- Train workers on when and how to wear required personal protective equipment.
- Provide additional training, as necessary, when a change in facilities, equipment, processes, materials, or work organization could increase hazards, and whenever a worker is assigned a new task.

WSHCOUNCIL

SAFE OPERATION OF MACHINES

A TRAINING FOR THE METALWORKING INDUSTRY

- **Updated on June 2015**

Table of Contents

WSHCOUNCIL

The following topics will be covered:

1. Introduction

WSHCOUNCIL

This slide is prepared for the workers in the metalworking industry for a better understanding of the hazards associated with the machines used in the industry. Hence, control measures and risk levels can be assessed for effective control of the hazards.

The hazards identified in the presentation may be applicable to other industries.

2. Incident History

WSHCOUNCIL

Incidents occurred due to:

- Lack of protection (e.g. equipment safeguards);
- Not following procedures;
- Lack of training;
- Lack of maintenance;
- Horseplay; and
- Others

2. Incident History

These incidents can cause:

- Damage to the body, e.g. cuts, crushing of limb, etc
- Injuries by energies released from the machine, e.g. electrical shock, burn, etc
- Fatalities

3. Machine Hazards

When identifying the hazards related with machines, we shall consider:

- type of machines
- layout of machines
- driven method, e.g. electricity, air, etc
- operating parameters, e.g. speed, pressure, temperature, size of cut, mobility, etc.
- materials to be processed or handled and method of feed

3. Machine Hazards

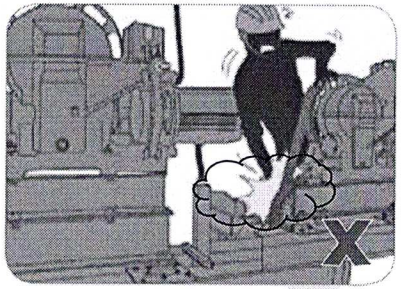
- operator position and controls
- access for setting adjustments and maintenance
- environmental factors, e.g. dust, fumes, noise, temperature, humidity etc
- operating requirements including what the operator needs to do

3. Machine Hazards

Typical hazards related with operation of machines include:

- mechanical:
  - e.g. crushing, shearing, cutting or severing, stabbing or puncture
- high pressure fluid ejection
- electrical shock
- noise and vibration
- contact with extremes of temperature
- ergonomics
- others

3. Machine Hazards



Unguarded Rotating Parts of Machine

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4. Machine Safety

vk1

4.1 Risk assessment for machine operation

Steps for risk assessment:

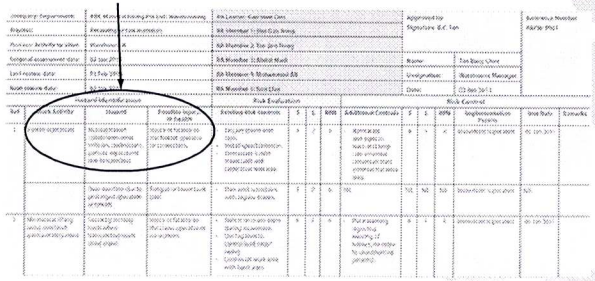
- Step 1: Identify the hazards
- Step 2: Identify the existing controls
- Step 3: Assess the risk level based on the matrix
- Step 4: Identify the need for additional control measures
- Step 5: Assign the responsible persons

Refer to "Risk Management for Metalworking Industry" and MOM Risk Management: Risk Assessment Guidelines" for detailed risk management description.

4. Machine Safety

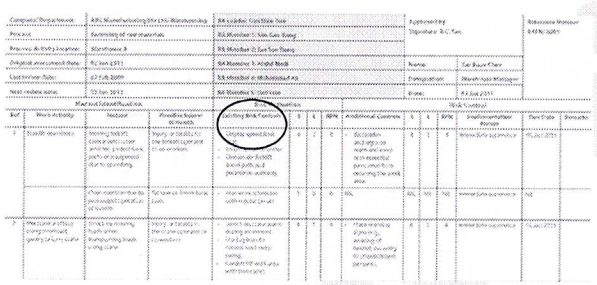
Step 1: Identify the hazards

- Breakdown the activities
- Identify the hazards and Consequence of each activity (Section 3)



4. Machine Safety

Step 2: Identify the existing controls



4. Machine Safety

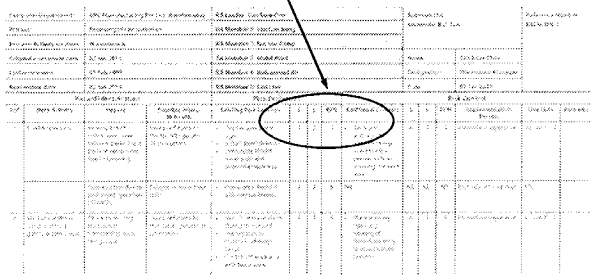
Step 2: Identify the existing controls

- any safeguards in place?
- any written procedures to control or mitigate the risk?
- what are the PPE used?

4. Machine Safety

Step 3: Assess the risk based on the matrix

Risk Level = Likelihood ×Severity



4. Machine Safety

Likelihood Definition by MOM

Level	Likelihood	Description
1	Rare	Not expected to occur but still possible.
2	Remote	Not likely to occur under normal circumstances.
3	Occasional	Possible or known to occur.
4	Frequent	Common occurrence.
5	Almost Certain	Continual or repeating experience.

4. Machine Safety

Severity Definition by MOM

Level	Severity	Description
5	Catastrophic	Death, fatal diseases or multiple major injuries.
4	Major	Serious injuries or life-threatening occupational diseases (includes amputations, major fractures, multiple injuries, occupational cancers, acute poisoning, disabilities and deafness.
3	Moderate	Injury or ill-health requiring medical treatment (includes lacerations, burns, sprains, minor fractures, dermatitis and work-related upper limb disorders)
2	Minor	Injury or ill-health requiring first- aid only (includes minor cuts and bruises, irritation, ill-health with temporary discomfort)
1	Negligible	Negligible injury.

4. Machine Safety

MOM Risk Assessment Matrix:

	Rare (1)	Remote (2)	Occasional (3)	Frequent (4)	Almost Certain (5)
Catastrophic (A)	Medium	Medium	High	High	High
Major (B)	Medium	Medium	Medium	High	High
Moderate (C)	Low	Medium	Medium	Medium	High
Minor (D)	Low	Medium	Medium	Medium	Medium
Negligible (E)	Low	Low	Low	Medium	Medium

4. Machine Safety

Risk Level	Risk Acceptability	Recommended Actions
Low	Acceptable	•No additional risk control measures may be needed. •Frequent review and monitoring of hazards are required to ensure that the risk level assigned is accurate and does not increase over time.
Medium	Tolerable	•A careful evaluation of the hazards should be carried out to ensure that the risk level is reduced to as low as reasonably practicable (ALARP) within a defined time period. •Interim risk control measures, such as administrative controls or PPE, may be implemented while longer term measures are being established. •Management attention is required.
High	Not Acceptable	•High Risk level must be reduced to at least Medium Risk before work starts. •There should not be any interim risk control measures. Risk control measures should not be overly dependent on PPE. •If practicable, the hazard should be eliminated before work starts. •Management review is required before work starts.

4. Machine Safety

Step 4: Identify the need for additional control

- ❖ What is the risk level with the consideration of existing controls?
  - • High risk must be reduced to at least medium risk before startup of work
- ❖ Whether the risk level can be further reduced to As Low As Reasonably Practical (ALARP)?

4. Machine Safety

Step 5: Assign the responsible person

- ❖ Responsible person shall be assigned for each identified activity
- ❖ Time frame for the activity can also be decided
- ❖ Responsible person shall ensure the effective closure of the activity

4. Machine Safety

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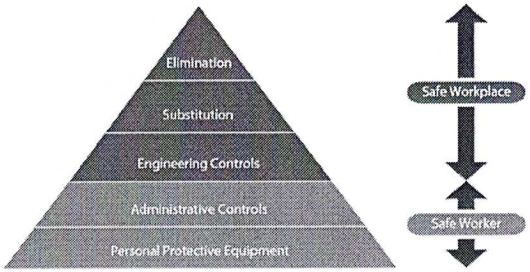
HIERARCHY OF HAZARDS CONTROL



4. Machine Safety

WSHCOUNCIL

4.2 Control Measures

Types of hazards control measures

- Machine guarding
- Using devices, e.g. sensor, gates, etc
- Distance
- Use of automatic or semi-automatic fed and ejection/robots
- Use of feeding tools
- Training, Procedures (LOTO), etc
- PPE

4. Machine Safety

WSHCOUNCIL

Types of machine guarding

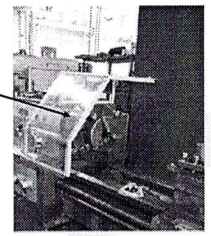
- Fixed guard
- Interlocked guard
- Adjustable guard
- Self-adjusting guard

4. Machine Safety

WSHCOUNCIL

Machine Guard

Fixed Perspex guard protects operator from rotating spindle of lathe machine



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4. Machine Safety

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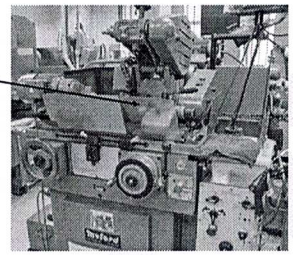
Machine Guard

Fixed guard protects operators from the debris caused by grinding machine.



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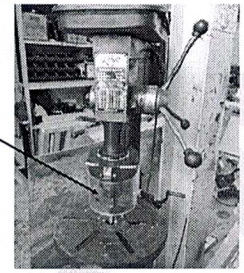
4. Machine Safety

WSHCOUNCIL

Machine Guard

Fixed clear Perspex guard that travels with the drill bit to prevent fingers from being cut by drill bit.



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4. Machine Safety

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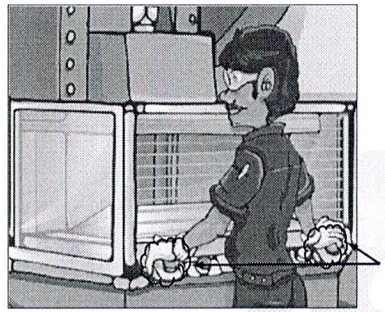
Devices

Two-hand Control



Two-hand Control

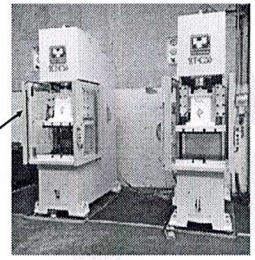
Source: https://www.tal.sg/wshc/Resources/Collaterals/Posters/Safe-Use-of-Machinery---Keep-Hands-Safe-Power-Press

4. Machine Safety

WSHCOUNCIL

Devices

Light curtain will shut down the machine when the light beam is interrupted by operator's hand inside the machine



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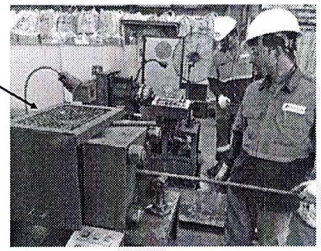
4. Machine Safety

Removable guard protects operator hands from moving thread cutter.



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4. Machine Safety

Emergency Switch

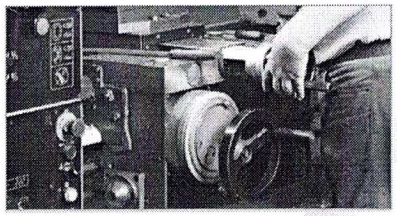
Emergency switch is provided when emergency stopping of machine is necessary, and hence, the switch shall:

- Be easily accessible to the operator; and
- Be designed for unexpected activation

When necessary, buddy system shall be considered.

4. Machine Safety

Emergency Switch



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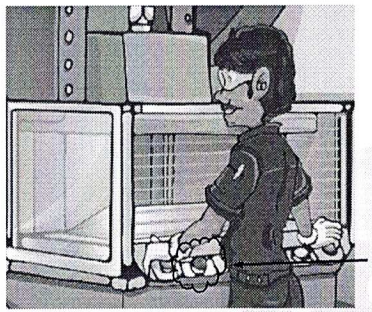
4. Machine Safety

Devices

Two-hand Control



Source: https://www.tal.sg/wshc/Resources/Collaterals/Posters/Safe-Use-of-Machinery---Keep-Hands-Safe-Power-Press

4. Machine Safety

WSHCOUNCIL

Power Trucks

While using power trucks for material transportation, the following could be applied:

- Do not block the vision
- No passengers allowed
- Wrap the load from falling
- Limit the speed
- Consider door access control to minimize the impact to pedestrians

Refer to "Safe Operation of Forklift" for details.

4. Machine Safety

WSHCOUNCIL

Lockout/Tagout Procedure

LOTO is used to control the unexpected release of energy:

- Electricity
- Steam
- Gas

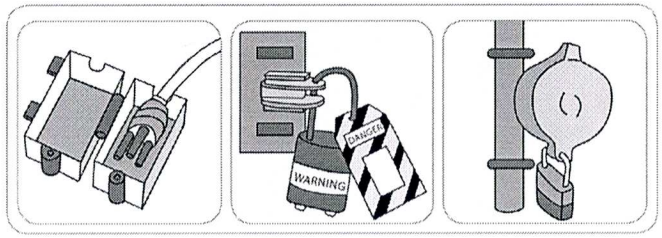
Physical Lockout/Tagout

Source: https://www.tal.sg/wshc/Resources/Publications/Checklists-and-Articles/Safe-Electrical-Maintenance-Work-Checklist

4. Machine Safety

WSHCOUNCIL

Lockout/Tagout Devices



Source: https://www.tal.sg/wshc/-/media/TAL/Wshc/Resources/Publications/Technical-Advisories/Files/TA_for_Safe_Use_of_Power_Presses_and_Press_Brakes.pdf

4. Machine Safety

WSHCOUNCIL

Lockout/Tagout (LOTO) Procedure

What must be included in the LOTO Procedure?

- A statement on how to use the procedures;
- Steps to shut down, isolate, block, and secure machines;
- Steps designating the safe placement, removal, and transfer of LOTO devices and identifying who has responsibility for the LOTO devices; and
- Requirements to determine and verify the effectiveness of lockout devices, tagout devices, and other energy-control measures.

4. Machine Safety

Lockout/Tagout (LOTO) Procedure

What must workers do before maintenance activities?

1. Prepare for shutdown;
2. Shut down the machine;
3. Disconnect or isolate the machine from the energy source(s);
4. Apply the lockout or tagout device(s) to the energy-isolating device(s);
5. Release, restrain, or render safe all potential hazardous stored or residual energy. Regularly inspect to avoid re-accumulation of energy if necessary.
6. Verify the isolation and de-energization of the machine.

4. Machine Safety

Lockout/Tagout (LOTO) Procedure

What must workers do before removing LOTO device and reenergize the machine?

Step 1: Inspect machines or their components to assure that they are operationally intact and that nonessential items are removed from the area; and

Step 2: Check to assure that everyone is positioned safely and away from machines.

4. Machine Safety

Lockout/Tagout (LOTO) Procedure

What are the limitations for tagout devices?

- A tagout device is a prominent warning of the hazards;
- Tags do not provide the physical restraint of a lock;
- Tags may evoke a false sense of security;
- Therefore, lockout devices is considered more secure and more effective than tagout devices in protecting employees from hazardous energy.

4. Machine Safety

Training

Before using any machine, you should:

- Be trained by qualified person/agent
- Clarify any doubt on machine usage
- Have the correct certificate, if required by law
- Inspect the machine for good condition (or inspected by qualified persons)
- Do not operate machine unless authorized

4. Machine Safety

PPE

Before using any machine, you should ensure that:

- Proper PPE is used to conduct the work
- The PPE is in good condition
- Proper training has been given on how to use PPE

4. Machine Safety

Ergonomics

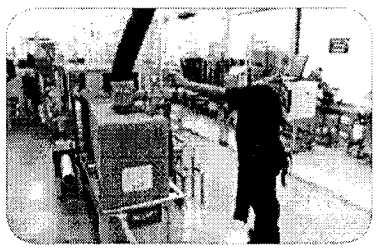
Some basic tips to improve ergonomics:

- Use equipment to aid material handling
- Use correct material handling position
- Maintain comfortable position when working
- Do the work with proper tools

Refer to Material Handling for Metalworking Industry for more details about ergonomic hazard control.

4. Machine Safety

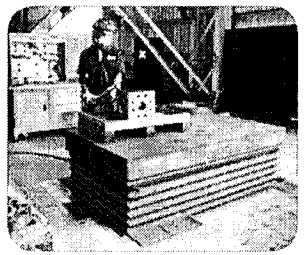
Ergonomics



Source: https://www.tal.sg/wshc/-/media/TAL/Wshc/Resources/Publications/WSH-Guidelines/Files/WSH_Guidelines_ImprovingErgonomicsintheWorkplace.pdf

4. Machine Safety

Ergonomics



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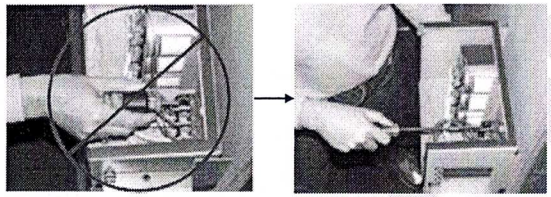
4. Machine Safety

WSHCOUNCIL

Ergonomics



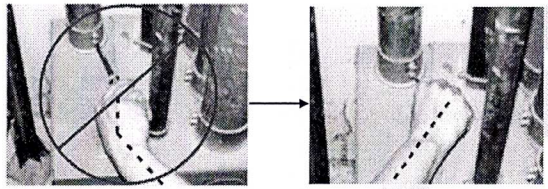
Use Tools with Better Grip

Source: https://www.tal.sg/wshc/Resources/Training-Materials/Training-Slides/Manual-Handling-of-Materials

4. Machine Safety

WSHCOUNCIL

Ergonomics



Select the Correct Tool for the Job

Source: https://www.tal.sg/wshc/Resources/Training-Materials/Training-Slides/Manual-Handling-of-Materials

4. Machine Safety

WSHCOUNCIL

Video Links

Finger Amputated by Machine

Hand Crushed by Power Press

Raisin Manufacturing Machine

Take Time to Take Care: Machinery Safety

Risk Assessment in Metal Working Industry

4. Machine Safety

WSHCOUNCIL

Safe Practices

The following practices shall be observed at all times:

- Always use the safety devices correctively;
- Do not wear loose clothing/ties when operating machines with rotating parts;
- Tie up or cover up long hair;
- Use devices to remove trapped materials from machine;
- Switch off the machine before retrieving dropped material(s) from inside the machine.

Exercise

Identify the hazards associated with the machines used by you, considering:

- What control measures are in place to reduce the hazard?
- Whether the control measures are adequate, e.g. any incident occurred?
- What improvements can be made to reduce the risk?

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13. SS537 - 1: 2008 Code of Practice for the Safe Use of Machinery

Thank You

NEED FOR SAFETY

The importance of industrial safety was realized because every year millions of industrial accidents occur which result in either death or an in temporary disablement of the employees and involve large amount of loss resulting from damage to property and wasted man hours and machine hours. Now-a-days serious attentions are being paid to reduce the rate and severity of accident. Health and safety are basic desire and instinct. The benefits of accident prevention have been well-understood and accepted by industries throughout the world. Industrial safety is mainly concerned with minimizing hazards in the industries. Hazard is a state, physical or chemical having potential to injure the person or impatient of health.

"Industrial safety is primarily a management activity which is concerned with reducing, controlling and eliminating hazards from the industries or industrial units."

The danger of life of human being is increasing with advancement of scientific development in different fields. The importance of industrial safety was realized because every millions of industrial accidents occur which result in either death or in temporary disablement or permanent disablement of employees and involve large amount of losses resulting from danger to property, wasted man hours and wasted hours

Bhopal Gas Tragedy

In **December 3 1984**, more than 40 tons of methyl isocyanate gas leaked from a pesticide plant in Bhopal, India, immediately killing at least 3,800 people and causing significant morbidity and premature death for many thousands more

The Bhopal disaster occurred when about 45 tons of the gas methyl isocyanate escaped from a plant owned by a subsidiary of the U.S.-based Union Carbide Corporation. Investigations later established that **substandard operating and safety procedures at the understaffed plant** had led to the catastrophe.

he main cause of this tragedy was **the water entering into the tank of Methyl Isocyanate**. This caused a reaction which lead to the release of toxic Methyl Isocyanate gas. The release of this toxic gas resulted in the death of thousands of people and caused irreversible harm to the environment.

On the night of 2 December 1984, a gas leak at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal led to the deaths of about 4000 people and adversely affected the health of lakhs of people. The disaster's after-effects continue to this day. This article shares more details about the Bhopal Gas Tragedy