



**DEPARTMENT OF MINING ENGINEERING**

**RUBRIC**

## **CONTENT**

- 1. SESSIONAL/PRACTICAL RUBRICS**
- 2. VOCATIONAL TRAINING REPORT RUBRICS**
- 3. MINING PROJECT WORK RUBRICS**

## SESSIONAL/PRACTICAL

### OBJECTIVE OF PRACTICAL:

To develop an understanding of the practical aspects of the mining industry and an appreciation for mining as a profession with regards to safety, technology, blasting and environment looking into economics and production.

### SESSIONAL/PRACTICAL RUBRICS

**Total Marks = 50 Marks**

- **Internal Marks =30**

The marks will be given on the basis of practical/ lab work, record book & attendance.

- **External Marks= 20**

The marks will be given on the basis of viva conducted for the lab.

### RUBRICS FOR INTERNAL MARKS

The marks will be given on the basis of lab record file & lab performed as follows:

1. **Objective of experiment (5 marks)**
2. **Theory, Procedure & diagram/ sketch (5 marks)**
3. **Experimental Data & analysis (5 marks)**
4. **Conclusion (5 marks)**
5. **Lab performed / Attendance (10 marks)**

Parameters	Criteria	Assessment
<b>Objective (5 marks)</b>	Objective accurately describes the purpose for doing the lab.	<b>5-4 marks</b>
	Objectives address the procedural aspects of the lab , but don't accurately summarize theoretical concept of the experiment.	<b>3-2 marks</b>
	Objectives are missing & not connected with lab performed.	<b>1-0 mark</b>
<b>Theory, Procedure &amp; diagram/ sketch (5 marks)</b>	Theory illustrated in the record book with proper diagram & procedure is included in the report.	<b>5-4 marks</b>
	Theory illustrated but not accurately summarized & procedure is incomplete in the report. Diagram is not neat & proper way.	<b>3-2 marks</b>
	Theory is incorrect & procedure is missing completely. Diagram/Sketch missing.	<b>1-0 mark</b>
<b>Experimental Data &amp; analysis (5 marks)</b>	All the data of experiment is included with complete analysis.	<b>5-4 marks</b>
	The data of experiment is not properly mentioned & incomplete analysis.	<b>3-2 marks</b>
	Data of experiment & analysis is missing.	<b>1-0 mark</b>
<b>Conclusion (5 marks)</b>	Appropriate & summarized conclusion.	<b>5-4 marks</b>
	Conclusion is mentioned but not in proper order.	<b>3-2 marks</b>
	Conclusion missing.	<b>1-0 mark</b>
<b>Lab performed / Attendance (10 marks)</b>	Regular attended lab & performed properly.	<b>10-7 marks</b>
	Irregular attendance in lab conducted.	<b>6-4 marks</b>
	Poor attendance.	<b>3-0 mark</b>

## **RUBRICS FOR EXTERNAL MARKS**

The viva voce marks of the project will be given on the basis of viva conducted.

1. **Demonstration & performing of Experiment (10 Marks)**
2. **Viva-voce (10 Marks)**

<b>Parameters</b>	<b>Criteria</b>	<b>Assessment</b>
<b>Demonstration &amp; performing of Experiment (10 Marks)</b>	Full demonstrated & performed the experiment with knowledge of theory, objectives, application and also suggest new ideas.	<b>10 - 7 marks</b>
	Fair understanding and demonstration of experiment with partial knowledge of concept & objective.	<b>6 - 4 marks</b>
	Demonstrates to some extent, not performed the experiment properly and little understanding of objective.	<b>0 - 3 marks</b>
<b>Viva-voce (10 Marks)</b>	Give complete and logical reply to the questions asked by examiner & Attire is appropriate.	<b>10 - 7 marks</b>
	Give logical reply to the questions asked by examiner with few errors & Attire is appropriate.	<b>6 - 4 marks</b>
	Give very few and vague answers to the questions asked by examiner & not proper attire.	<b>0 - 3 marks</b>

## **VOCATIONAL TRAINING REPORT**

### **OBJECTIVE OF VOCATIONAL TRAINING**

The objective of undertaking vocational training is to provide work experience so that student's engineering knowledge is enhanced and employment prospects are improved. The student should take this course as a window to the real World of Work and should try to learn as much as possible from real life experiences by involving and interacting with industry staff. Industrial training also provides an opportunity to students to select an engineering problem and possibly an industry guide for their **Major Project in final semester**.

Industrial training of the students is essential to bridge the wide gap between the classroom and industrial environment. This will enrich their practical learning and they will be better equipped to integrate the practical experiences with the classroom learning process

### **LEARNING THROUGH VOCATIONAL TRAINING**

During training students must observe following to enrich their learning:

- Industrial environment and work culture.
- Organizational structure and inter personal communication.
- Machines/ equipment/ instruments - their working and specifications.
- Product development procedures and phases.
- Project planning, monitoring and control.
- Quality control and assurance.
- Maintenance system.
- Costing system.
- Roles and responsibilities of different categories of personnel.
- Problems related to various areas of Work etc.

## **VOCATIONAL TRAINING REPORT RUBRICS**

### **Total Marks = 100 Marks**

- **Internal Marks =50**

The marks will be given on the basis of review conducted for the work done to prepare training report.

- **External Marks= 50**

The marks will be given on the basis of viva conducted in presence of external member & guide related to training report prepared.

### **INTERNAL MARKS**

The marks will be given on the basis contents in the training report.

1. **Front Pages of Report (10 Marks)**
2. **Introductory Data of Mine (10 Marks)**
3. **Technical Data of Mine (20 Marks)**
4. **Conclusion (10 Marks)**

PARAMETERS	Contents	Review Assessment (Maximum Marks)	Weightage
Front Pages of Report	• Title page, Certificate page, acknowledgment page & experience certificate	10	20%
Introductory Data of Mine	• Introduction of mine, Geology, Access method, Location of Mines & Mining Method	10	20%
Technical Data of Mine	• Transportation method, Machinery used, Explosive, Blasting method, Safety Equipment, Pumping system, Support system & power system.	20	40%
Conclusion	• Manpower, Productivity & Conclusion	10	20%
<b>TOTAL REVIEW MARKS</b>		<b>50</b>	

### **RUBRIC OF INTERNAL MARKS**

S.No	Parameter	Level of Achievement	Marks
1	Front Pages of Report (10 marks)	Title page, certificate page & acknowledgment of training report are properly aligned and extensive explanation of the purpose and need of the project.	10-6
		Title page, certificate page & acknowledgment of training report are aligned but not exactly.	5-3
		Not appropriate pattern of title page, certificate page & acknowledgment of training report.	2-0
2	Introductory Data of Mine (10 marks)	All introductory data of mine including location, method, geology were clearly specified in the report.	10-6
		The introductory data of mine including location, method, geology were mentioned but to some extent.	5-3
		Insufficient introductory data of mine in the report.	2-0
3	Technical Data of Mine (20 marks)	All the technical data from machinery to transportation system is detailed in the training report with suitable figure.	10-6
		The technical data of mine is specified in the training report but not in details & figure missing.	5-3
		Some technical data of mine is not specified in the training report & figure missing.	2-0
4	Conclusion (10 marks)	Production, Productivity & conclusion are clearly detailed in appropriate format.	10-6
		Production, Productivity & conclusion are mentioned in the report but not in proper format.	5-3
		All details are not mentioned in conclusion.	2-0

### **RUBRICS FOR EXTERNAL MARKS**

The viva voce marks of the training report of mine will be given on the basis of viva conducted in presence of external member & guide.

#### **1. Knowledge of Mine (20 Marks)**

## 2. Training Report (20 Marks)

## 3. Viva-voce (10 Marks)

Parameters	Criteria	Assessment
<b>Knowledge of Mine (20 Marks)</b>	Complete technical knowledge of mine with appropriate demonstration of mining method & equipments used.	<b>20 - 14 marks</b>
	Fair understanding of mine with some demonstration of mining method & equipments used.	<b>8 - 14 marks</b>
	Partial or incomplete understanding and demonstration of mining method & equipments used in mine.	<b>0 - 8 marks</b>
<b>Training Report (20 Marks)</b>	Information in training report is in prescribed sequence with figures, conclusion title page & certificate page. The report is complete and in proper format.	<b>20 - 14 marks</b>
	Information in report is in sequence with figures, conclusion title page & certificate page. The report is partially complete and in proper format.	<b>8 - 14 marks</b>
	Less technical information of mine is provided in the report. The report is incomplete and not in proper format.	<b>0 - 8 marks</b>
<b>Viva-voce (10 Marks)</b>	Give complete and proper technical reply to the questions asked by examiner & crisp to-the-point answers & Attire is appropriate.	<b>20 - 14 marks</b>
	Give incomplete reply to the questions asked by examiner & attire is proper.	<b>8 - 14 marks</b>
	Give very few and vague answers to the questions asked by examiner & not proper attire.	<b>0 - 8 marks</b>

## MINING PROJECT WORK

### Objectives:

The aim of the course is to make the student perform a comprehensive project work that involves either or all of the following: optimum design of a mechanical component or an assembly, thermal analysis, computer aided design & analysis, cost effective manufacturing process, material selection, testing procedures or fabrication of components and prepare a detailed technical thesis report. The completed task should also take into account the significance of real time applications, energy management and the environmental affects.

### Outcomes:

After completing the project work the student should learn the technical procedure of planning, scheduling and realizing an engineering product and further acquire the skills of technical report writing and data collection.

## MINING PROJECT WORK RUBRICS

### Total Marks = 200 Marks

- **Internal Marks =100**

The marks will be given on the basis of four reviews conducted for the work done for mining project work.

- **External Marks= 100**

The marks will be given on the basis of viva conducted in presence of external member & guide related to project.

## RUBRICS FOR INTERNAL MARKS

The marks will be given on the basis of four reviews conducted for the work done for mining project.

Review	Parameters	Review Assessment (Maximum Marks)	Rubrics	Weightage
Review 1	• Title of project	10	Rubric 1	25%
	• Introduction of project	10		
	• Attendance	5		
Review 2	• Literature Survey	10	Rubric 2	25%
	• Methodology of Project	10		
	• Attendance	5		
Review 3	• Calculation & Analysis	10	Rubric 3	25%
	• Result & Conclusion	10		
	• Attendance	5		
Review 4	• Project Report writing	10	Rubric 4	25%
	• Presentation and discussions.	10		
	• Attendance	5		
<b>TOTAL REVIEW MARKS</b>		100		

**REVIEW 1 (25 marks)**

- Title of project
- Introduction of project

**RUBRIC 1****(5 Marks for attendance in review session)**

S.No	Parameter	Level of Achievement	Marks
1	Title of project (10 marks)	Suitable title selected & detailed and extensive explanation of the purpose and need of the project.	10-6
		Title Selected but not good explanation of the purpose and need of the project.	5-3
		Not appropriate title selected & moderate explanation of the purpose and need of the project.	2-0
2	Introduction of project (10 marks)	All objectives of the proposed work are well defined & Steps to be followed to solve the defined problem are clearly specified.	10-6
		Collects a great deal of information and good study of the existing systems & defined the project to some extent.	5-3
		Moderate study of the existing systems & collects some basic information.	2-0

**REVIEW 2 (25 marks)**

- Literature Survey
- Methodology of Project

**RUBRIC 2****(5 Marks for attendance in review session)**

S.No	Parameter	Level of Achievement	Marks
1	Literature Survey (10 marks)	Literature survey done, fully aware of global development, aware of recent status of similar works	10-6
		Literature survey done, but recent developments in the field globally not clear	5-3
		Details of similar works done in past not surveyed.	2-0
2	Methodology of Project (10 marks)	Division of problem into modules and good selection of computing framework & appropriate design methodology and properly justification.	10-6
		Division of problem into modules and good selection of computing framework & design methodology not properly justified.	5-3
		Partial division of problem into modules and inappropriate selection of computing framework & design methodology not defined.	2-0

**REVIEW 3 (25 marks)**

- Calculation & Analysis
- Result & Conclusion

**RUBRIC 3****(5 Marks for attendance in review session)**

1	<b>Calculation &amp; Analysis (10 marks)</b>	Very précised data analysis, complete explanation of the key concepts and strong description of the technical requirements of the project	<b>10-6</b>
		Data analysis & calculation based on various readings with low accuracy but in-sufficient description of the technical requirements of the project.	<b>5-3</b>
		Inappropriate analysis & explanation of the key concepts and poor description of the technical requirements of the project.	<b>2-0</b>
2	<b>Result &amp; Conclusion (10 arks)</b>	Results are presented in very appropriate manner, Project work is well summarized and concluded & future extensions in the project are well specified.	<b>10-6</b>
		Results are presented in good manner, Project work summary and conclusion not very appropriate & future extensions in the project are specified.	<b>5-3</b>
		Results are neither relevant nor presented appropriately, Project work is not summarized and concluded & future extensions in the project are not specified.	<b>2-0</b>

**REVIEW 4 (25 marks)**

- Project Report writing
- Presentation and discussions.

**RUBRIC 4****(5 Marks for attendance in review session)**

<b>S.No</b>	<b>Parameter</b>	<b>Criteria</b>	<b>Marks</b>
1	<b>Project Report Writing (10 marks)</b>	Project report is according to the specified format & references and citations are appropriate and well mentioned. All clauses sub clauses well connected with the topic.	<b>10-6</b>
		Project report is according to the specified format & references and citations are appropriate but not mentioned well.	<b>5-3</b>
		Project report not prepared according to the specified format & references and citations are not appropriate.	<b>2-0</b>
2	<b>Presentation and discussions (10 marks)</b>	Contents of presentations are appropriate and well arranged & proper eye contact with audience and clear voice with good spoken language.	<b>10 -6</b>
		Contents of presentations are appropriate but not well arranged & satisfactory demonstration, clear voice with good spoken language but eye contact not proper.	<b>5-3</b>
		Contents of presentations are not appropriate & demonstration not satisfactory.	<b>2-0</b>

## RUBRICS FOR EXTERNAL MARKS

The viva voce marks of the project will be given on the basis of viva conducted in presence of external member & guide.

3. **Demonstration of Project (40 Marks)**
4. **Project Report (40 Marks)**
5. **Viva-voce (20 Marks)**

Parameters	Criteria	Assessment
<b>Demonstration of Project (40 Marks)</b>	Full understanding and demonstration of not only the project but domain around with complete fulfillment of objectives and also suggest new ideas.	<b>30 - 40 marks</b>
	Fair understanding and demonstration of project with partial fulfillment of objectives.	<b>20 - 30 marks</b>
	Partial understanding and demonstration of project with very few of objectives and does not make connections among ideas.	<b>10 -20 marks</b>
	Demonstrates very little and some understanding of objectives.	<b>0 - 10 marks</b>
<b>Project Report (40 Marks)</b>	Information in project report is in logical sequence with diagrams, tables, results and discussion. The report is complete and in proper format.	<b>30 - 40 marks</b>
	Information in project report is in logical sequence with diagrams, tables, results and discussion. The report is partially complete and in proper format.	<b>20 - 30 marks</b>
	Information in project report is not in logical sequence with diagrams, tables, results and discussion. The report is incomplete but in proper format.	<b>10 -20 marks</b>
	Less Information is provided in the report about the project, results and discussion. The report is incomplete and not in proper format.	<b>0 - 10 marks</b>
<b>Viva-voce (20 Marks)</b>	Give complete and logical reply to the questions asked by examiner & crisp to-the-point answers & Attire is appropriate.	<b>15 - 20 marks</b>
	Give logical reply to the questions asked by examiner with few errors & crisp to-the-point answers & Attire is appropriate.	<b>10 - 15 marks</b>
	Give incomplete and illogical reply to the questions asked by examiner & average attire.	<b>5 - 10 marks</b>
	Give very few and vague answers to the questions asked by examiner& not proper attire.	<b>0 - 5 marks</b>