

SPECIALTY: PETROLEUM LOGISTICS

OPTION: PETROLEUM LOGISTICS

PAPER: CASE STUDY.

Credit value: 10

Objective(s) of the paper: The objective of this paper is to test the candidate's critical and analytical thinking on the function of the petroleum logistics world and its importance

Nature of the Exam: Written.

Format of the Exam:

Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percentage
Case study PLO14	Petroleum Logistics	Section A: Petroleum Exploration. ➤ Understanding the contribution of geological surveys to petroleum prospecting. ➤ Understand how Geochemistry and geophysics is applied to petroleum prospecting ➤ Gain introductory knowledge in petroleum production.	2 Hrs	40	40%
		Section B: Introduction to oil and gas Industry. ➤ Oil and gas industry background. ➤ Oil and gas Reserves. ➤ Oil and gas in the Global Economy ➤ Oil and Gas Supply ➤ Fundamentals of Business ➤ Evolution of the Industry.	1 Hr 30 min	30	30%
		Section C: Introducing Logistics in Exploration and Production. ➤ Introducing logistics in Exploration and production ➤ Purchasing, inventory and stocks. ➤ Managing the warehousing function ➤ Receiving goods, O&G materials and asset management	1 Hr 30 min	30	30%

PAPER: SAFETY AND ENVIRONMENTAL MANAGEMENT.**Field:** Petroleum and Mining Engineering.**Specialty:** Petroleum Logistics**Option:** Petroleum Logistics**Credit value:** 05**Objective(s) of the paper:** The objective of this paper is to test the candidate's critical and analytical thinking on personal safety and work-site safety.**Nature of the Exam:** Written.**Format of the Exam:**

Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percentage
Safety and environmental management PLO15	Petroleum Logistics	Section A: Risk Analysis and management ➤ Understanding key issues in risk management ➤ Understand the issue of control and governance in risk management ➤ Understand how the risk management process can be controlled ➤ Understand the tools and techniques used in project risk management.	30 min	30	30%
		Section B: Oil and Gas operational safety. ➤ The safety cultures ➤ Working with contractors ➤ Involvement in safety ➤ SMS and well site analysis ➤ Hazard prevention and control	1 Hr 15mins	50	50%
		Section C: Health and Environmental safety. ➤ Understanding the need for occupational health and safety management ➤ Understanding the theoretical aspects of health and safety management ➤ Understanding the nature of risk assessment and control ➤ Understand the categories of hazards associated with petroleum exploration and production	1 Hr 15mins	20	20%

PAPER: OIL AND GAS MANAGEMENT

Field: Petroleum and Mining Engineering.

Specialty: Petroleum Logistics.

Option: Petroleum Logistics.

Credit value: 05

Objective(s) of the paper: The objective of this paper is to test the candidate's critical and analytical thinking on the management of oil and gas..

Nature of the Exam: Written.

Format of the Exam:

Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percent age
Oil and Gas managementPL O16	Petroleum Logistics	Section A: The Oil and Gas Industry. ➤ Origin and Composition of Petroleum	1 Hr	30	30%
		Section B: Introduction to Drilling ➤ Understand drilling operations ➤ Understand the nature of offshore drilling	1 Hr	35	35%
		Section C: Midstream and Downstream Petroleum Economics ➤ Oil and gas transportation options and their economics ➤ Pipeline and facility tariffs ➤ Petroleum product distribution logistics and economics	1 Hr	35	35%

PAPER: INTERNATIONAL LOGISTICS

Field: Petroleum and Mining Engineering.

Specialty: Petroleum Logistics.

Option: Petroleum Logistics.

Credit value: 05

Objective(s) of the paper: The objective of this paper is to test the candidate's critical and analytical thinking on International transportation..**Nature of the Exam:** Written.

Format of the Exam:

Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percentage
International Logistics PLO17	Petroleum Logistics	Section A: International Transport management ➤ Transport role in SCM ➤ Transport role in the economy ➤ Road transport ➤ Carrier strategies	1Hr 30min	40	40%
		Section B: International trade management. ➤ Shipping ➤ Forwarding ➤ Customs regimes ➤ Insurance issue ➤ Incoterms ➤ Stock checking program ➤ Inventory accuracy	1Hr 30min	60	60%
Total				100	100%

PAPER: WAREHOUSING AND INVENTORY

Field: Petroleum and Mining Engineering.

Specialty: Petroleum Logistics.

Option: Petroleum Logistics.

Credit value: 05

Objective(s) of the paper: The objective of this paper is to test the candidate's critical and analytical thinking on warehousing.. Candidates should also be able to identify and critically examine and proposed suitable solutions to inventory problems.

Nature of the Exam: Written.

Format of the exam:Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percentage
Warehousing and InventoryPL O18	Petroleum Logistics	Section A: Procurement and Inventory management. ➤ Stocks and inventory ➤ Economic order quantity ➤ Models for known demand ➤ Sources of information ➤ Planning and stocks ➤ Forecasting demand	1Hr 30min	50	50%
		Section B: Warehousing and distribution management ➤ Introduction to warehousing and material handling ➤ Facility planning ➤ Receiving and putting away ➤ Order picking operations ➤ Warehouse activity profiling	1Hr 30min	50	50%

PAPER: ICT FOR LOGISTICS

Field: Petroleum and Mining Engineering.

Specialty: Petroleum Logistics.

Option: Petroleum Logistics.

Credit value: 08

Objective(s) of the paper: The objective of this paper is to test the candidate's critical and analytical thinking on information technology.

Nature of the Exam: Practicals.

Format of the exam:

Exam Paper	Option	Different section of paper	Duration per section	Marks allocated	Percentage
ICT for Logistics PLO19	Petroleum Logistics	Section A: ➤ Managing Information flow in supply chains ➤ Information systems in supply chains.	2Hr	30	50%
		Section B: ➤ Understand and know how to use Microsoft Office and be able to use excel in the creation of proposed sheets.	2Hrs	70	50%
			04Hrs	100	100%

SPECIALTY/OPTION: PETROCHEMICAL ENGINEERING

PAPER: CASE STUDY

Objective(s) of The Paper: The student will be evaluated on the basis of process technology and descriptive analysis, mathematical blending application and Process safety.

Nature Of Paper: Written

Credit Value: 10.

Exam Paper	Option	Different sections of Paper	Duration Per section	Marks allocated	Percentage
Case Study PCH 14	Petrochemical Engineering	Section A: Petroleum Refining Processes. ➤ Atmospheric Distillation ➤ Vacuum distillation ➤ Viscoreduction ➤ Hydro-desulfurization ➤ Catalytic cracking ➤ API gravity concept	2hrs	40	40%
		Section B: Distillate Testing ➤ ASTM distillation ➤ pH determination. ➤ Conradson description	1hr	20	20%
		Section C: Natural Gas/Petrochemical technology	2hrs	40	40%

PAPER: INDUSTRIAL CORROSION AND CONTROL

Field: Chemical Engineering

Specialty/Option: Petrochemical Engineering

Objective(s) of The Paper: The student will be evaluated on the basis of corrosion prevention and control techniques.

Nature Of Paper: Written

Credit Value: 4.

Exam Paper	Option	Different sections of Paper	Duration Per section	Marks allocated	Percentage
Industrial Corrosion and Control PCH 15	Petrochemical Engineering	Section A: Basics of Corrosion and control ➤ Concept of corrosion ➤ Concept of Rusting ➤ Electroplating. ➤ Galvanic cells etc.	50mins	30	30%
		Section B: Various forms of corrosion ➤ Pitting Corrosion ➤ Crevice corrosion ➤ etc.	1hr05mins	35	35%
		Section C: Corrosion in Petroleum industry ➤ Desalting ➤ Caustic corrosion ➤ Coating ➤ Gibbs free energy concept ➤ etc.	1hrs05mins	35	35%

PAPER: ORGANIC AND INDUSTRIAL POLYMERS

Field: Chemical Engineering

Specialty/Option: Petrochemical Engineering

Objective(s) of The Paper: The student will be evaluated on the basis of application technics and process manufacturing of Polymers, types and overall concepts.

Nature Of Paper: Written

Credit Value: 4.

Exam Paper	Option	Different sections of Paper	Duration Per section	Marks allocated	Percentage
Organic and Industrial Polymers PCH 16	Petrochemical Engineering	Section A: Polymerization Process manufacturing concept ➤ Definitions of Concepts ➤ Types of polymers ➤ Process Manufacture of Polymers etc.	1hr	30	30%
		Section B: Polymer strength ➤ Evaluation of Polymer quality ➤ Tacticity concept ➤ Polymer cross-linking	2hr	70	70%

PAPER:: PROCESS SCALE UP AND DYNAMICS.

Field: Chemical Engineering

Specialty/Option: Petrochemical Engineering

Objective(s) of The Paper: The student will be evaluated on the basis of Process analysis of pilot plant, Energy concept, fluid parameters and process trouble shooting.

Nature Of Paper: Written

Credit Value: 4.

Exam Paper	Option	Different sections of Paper	Duration Per section	Marks allocated	Percentage
Process Control, Scale Up and Dynamics PCH 17	Petrochemical Engineering	Section A: Process Scale-up Factor. ➤ Definitions of Concepts ➤ Pilot plant concepts ➤ Types of plant layout ➤ Continuity theory	1hr15mins	40	40%
		Section B: Process regulation and Control. ➤ Control loop ➤ Feedback and Feed forward mechanism etc.	45mins	25	25%
		Section C: Momentum and Heat Transfer. ➤ Fundamentals of Fluid Dynamics ➤ Transportation of Liquids ➤ Energy and mass Balance	1hr	35	35%

PAPER:: LABORATORY PRACTICAL ANALYSIS

Field: Chemical Engineering

Specialty/Option: Petrochemical Engineering

Objective(s) of The Paper: The student will be evaluated on the basis of Process analysis of pilot plant, Energy concept fluid parameters and process trouble shooting.

Nature Of Paper: Practical

Credit Value: 6.

Exam Paper	Option	Different sections of Paper	Duration Per section	Marks allocated	Percentage

Laboratory Practical Analysis PCH 21	Petrochemical Engineering	Section A: Experimental laboratory techniques ➤ pH determination. ➤ Standard preparations. ➤ Sulphur tests ➤ Viscosity. ➤ Qualitative and Quantitative analysis. Etc.	3hrs	65	65%
		Section B: Laboratory calculations. ➤ Calculation of Parts Per Million. ➤ Calculation of Percent V/V% ➤ Calculation of Percent W/W% etc.	2hr	35	35%
			05Hrs	100	100%