

HRM USING AI & DATA SCIENCE
PROFESSIONAL ELECTIVE
SEMESTER – FIFTH

These important questions have been prepared using your previous exam papers (PYQs), verified concepts, and additional reference from trusted online academic sources. For deeper understanding, please refer to your class notes as well.

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1 HIGH & LONG IMPORTANT QUESTIONS

Unit 1: Talent Acquisition

1. Describe the steps involved in the AI-based process for **efficient matching of qualified individuals with open positions**. Explain how AI analyzes both **job descriptions** and **candidate profiles** to achieve this matching.
2. Elaborate on the complete mechanism of **automating the initial screening of applications** using AI. What specific parameters does the AI use to filter candidates?

Unit 2: Employee Onboarding

3. How do **AI-powered chatbots** provide **personalized assistance** to new hires during **Employee Onboarding**? Discuss the key advantages of using chatbots over traditional methods in this process.

Unit 3: Learning & Development

4. Explain, with suitable examples, how **Data Science** is used to analyze **employee performance data and feedback** for the **identification of skill gaps**. How does this analysis lead to the creation of **customized learning and development plans**?

Unit 4: Performance Management

5. Detail the role of AI in **compilation of data from performance metrics and peer feedback** to generate effective **performance review drafts**.

6. Discuss the critical use of **AI-powered analytics** in assessing factors like **employee sentiment, workload patterns, and communication** to improve **job satisfaction and workplace culture**.

Unit 5: Safety & Health

7. Explain the process of how **AI analyzes sensor data** to **identify potential workplace hazards**. How does this continuous monitoring contribute to a safer work environment?

Unit 6: Strategic Planning & Automation

8. Define **Strategic Workforce Planning (SWP)**. Describe the application of **predictive analytics** in SWP for **accurate forecasting of talent needs** and informing organizational design decisions.
9. Explain the concept of **HR Process Automation** using AI. Give examples of repetitive administrative tasks that can be automated and how this automation benefits HR professionals.

IMPORTANT & SHORT QUESTIONS

1. Write a short note on the use of AI for **candidate profile analysis** (Unit 1).
2. State the primary purpose of **AI in automating the initial screening process** (Unit 1).
3. What are the two main functions of **AI-powered chatbots** during the onboarding process? (Unit 2)
4. Explain the term **Customized Learning and Development Plans** (Unit 3).
5. How is **data science** helpful in the **identification of skill gaps**? (Unit 3)
6. Write a short note on how AI assesses **employee sentiment** in performance management (Unit 4).
7. Define **workload patterns** in the context of AI analytics (Unit 4).
8. List any four data points (metrics) that AI can use for **performance review drafting** (Unit 4).
9. How does AI analysis of sensor data help in **monitoring employee health**? (Unit 5)
10. Differentiate between **forecasting of talent needs** and **strategic decisions** related to staffing (Unit 6).

11. Give four examples of **routine employee inquiries** that can be handled by AI automation (Unit 6).

3 “AA BHI SAKTA HAI” QUESTIONS

1. Discuss the ethical challenges in using AI for **matching qualified individuals** during recruitment (Unit 1).
2. How can the use of AI in onboarding reduce the time taken for a new hire to reach **full productivity**? (Unit 2)
3. Explain the difference between using **performance metrics** and **peer feedback** for L&D analysis (Unit 3).
4. Why is the analysis of **communication** patterns important for improving **workplace engagement**? (Unit 4)
5. Briefly discuss the integration of AI-analyzed sensor data with existing **Workplace Safety protocols** (Unit 5).
6. How does **AI automation** allow HR professionals to shift their focus from **administrative to strategic work**?

QUICK REVISE

UNIT 1: Talent Acquisition and Recruitment

Topic	Key Concept	Focus Points
Analysis of Job Descriptions (JDs) & Candidate Profiles	AI systems process vast amounts of unstructured text data from JDs and CVs.	JD Analysis: Extracts required skills, experience, and role complexity. Profile Analysis: Identifies relevant keywords, previous roles, and cultural fit markers.
Efficient Matching	The core function of AI in recruitment. Algorithms match extracted JD requirements with	Method: Uses machine learning/Natural Language Processing (NLP) to calculate a "match score" or

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Topic	Key Concept	Focus Points
	candidate profile features.	similarity index. Goal: Improve quality of hire and reduce time-to-fill.
Automating Initial Screening	AI handles the high-volume, repetitive task of reviewing applications against basic criteria.	Screening Criteria: Minimum experience, required certifications, educational background. Benefit: Reduces bias in the initial stage and frees up recruiters.
Key AI Technology	NLP (for understanding JDs/CVs) and Machine Learning/Deep Learning (for matching/ranking).	

UNIT 2: Employee Onboarding

Topic	Key Concept	Focus Points
AI-Powered Chatbots	Conversational interfaces designed to support new hires during their initial period.	Function: Provide instant, 24/7 access to information. Goal: Reduce the cognitive load on HR staff.
Personalized Assistance	Chatbots tailor responses based on the new hire's role, department, and common questions.	Examples: Guiding through benefits enrollment, explaining company policies, providing IT setup instructions, scheduling first-day activities.
Answering Common Questions	Handling Frequently Asked Questions (FAQs) related to	Efficiency: Reduces the need for HR staff to answer the same

Topic	Key Concept	Focus Points
	policy, payroll, facilities, etc.	basic questions repeatedly.
Guiding through Onboarding Process	Chatbots act as a structured guide, ensuring all necessary steps (paperwork, training modules) are completed.	Tracking: Can monitor progress and send reminders for incomplete tasks.

UNIT 3: Learning and Development (L&D)

Topic	Key Concept	Focus Points
Analysis of Employee Performance Data & Feedback	Data Science techniques (statistics, machine learning) are applied to various data sources.	Data Sources: Performance review scores, training test results, project outcomes, 360-degree feedback.
Identification of Skill Gaps	DS compares the current skill set (derived from data) with the skills required for the role or future needs.	Method: Clustering, descriptive statistics, and comparison against defined competency models.
Creating Customized L&D Plans	Plans are generated based <i>only</i> on the specific, identified needs of an individual employee.	Tailoring: Recommending specific courses, mentors, or projects to address precise skill deficits (e.g., recommending a specific course in Python for a data analyst lacking that skill).
Data Science Role	Predictive modeling can forecast future skill needs of the organization	

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Topic	Key Concept	Focus Points
	(Predictive L&D).	

UNIT 4: Performance Management

Topic	Key Concept	Focus Points
Compilation of Data for Review Drafts	AI integrates quantitative and qualitative data sources to create a balanced initial draft.	Data Used: Performance Metrics (KPIs/targets), Peer Feedback, Managerial Ratings, Self-Assessment.
Creating Performance Review Drafts	AI writes narrative summaries based on collected data, ensuring objective language.	Benefit: Saves managerial time and promotes fairness by relying on objective data compilation.
AI-Powered Analytics for Sentiment & Workload	AI and NLP analyze communication data (emails, team chats, surveys) and HR system logs.	Sentiment: Measures employee morale, satisfaction, and stress levels (e.g., detecting frustration or engagement).
Assessing Workload Patterns	Analyzing data on meeting times, project hours, and time-off requests.	Goal: Identify burnout risks, resource allocation issues, and ensure equitable distribution of tasks.
Targeted Initiatives	Using insights from analytics to design specific programs to improve job satisfaction and workplace culture .	

UNIT 5: Workplace Safety and Health

Topic	Key Concept	Focus Points
Analysis of Sensor Data using AI	AI processes real-time data collected from wearable devices, cameras, and environmental sensors.	Data Examples: Temperature, air quality, noise levels, employee movement patterns (speed, location).
Identify Potential Workplace Hazards	AI models are trained to detect deviations from normal/safe conditions.	Hazard Examples: Unauthorized entry into restricted areas, blocked emergency exits, fatigue/sleepiness based on movement, unusual machine vibrations.
Monitoring Employee Health	AI processes data from fitness trackers/wearables (if permitted) or time-off records/sick leave patterns.	Prevention: Detecting early signs of stress or fatigue before they lead to accidents or serious health issues.
Promote a Safer Work Environment	The system provides instant alerts and data-driven recommendations for proactive intervention.	Focus: Moving from reactive safety response to proactive hazard prevention.

🌐 UNIT 6: Strategic Workforce Planning and HR Process Automation

Topic	Key Concept	Focus Points
Predictive Analytics for Forecasting Talent Needs	Using historical data (turnover rates, project growth, market trends) to predict future staffing demands.	Method: Time series analysis and regression models. Outcome: Accurate forecasts of the number and type of roles needed (e.g., "Need 5 Java Developers in Q3").
Data-Driven Insights for Strategic Decisions	Providing senior management with evidence-based data	Decisions: Outsourcing vs. hiring, organizational restructuring,

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Topic	Key Concept	Focus Points
	to inform major HR decisions.	budgeting for training, long-term talent pipeline creation.
AI-based Automation (HRPA)	Using AI/Robotic Process Automation (RPA) tools to handle repetitive, rule-based administrative tasks.	Goal: Increase efficiency, reduce human error, and save costs.
Automation Examples	Drafting job descriptions, handling routine employee inquiries (FAQ), managing expense reports, processing basic leave requests.	Benefit: Freeing up HR professionals to focus on strategic work (employee relations, culture building, high-level talent strategy).

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