

**JAIPURIA INSTITUTE OF MANAGEMENT, NOIDA**

**PGDM / PGDM (SERVICE MANAGEMENT)**

**V TRIMESTER (Batch 2022-24)**

**END TERM EXAMINATION, FEBRUARY 2024**

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| Course Name | **Human Resource Analytics** | Course Code | **20328** |
| Max. Time | **2 Hours** | Max. Marks | **40 MM** |

**Instructions:**

1. All the questions are compulsory and carry 10 marks each.
2. Q.1-3 to be done in **a new MS-Word file** (Arial font size 11) while **Q.4 in MS-Excel file** named after Your Name & Roll No.
3. Overall Permissible Plag. is 10%, **Penalty Clause: 11-20% - Minus 5 Marks, Above 20% - Reappear**.
4. Be precise and objective in your answers.

**Q1.** Since HR is meant to serve the people of an organization, the employee experience should be an important part of the HR measuring process. Are HR initiatives helping to boost employee satisfaction and engagement? Or are they hindering these things? HR metrics can help answer these questions. Identify and elaborate most important HR metrics pertaining to all HR functions.

**Q2.** *Derive LLP* has the following historical HR data. Identify the relevant HR Metrics and assess health of HR functions/processes and their efficiency levels.

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| --- | --- |
| **Particulars** | **Benchmark** |
| * The company has over 3000 headcounts at its Bhubaneswar office. In November 2023, there was a report of total 1400 absents. The headcounts was reported to be 3005 on November 1, 2023 which got reduced to 1805 at the end of November 2023. There was no holiday and the firm was open throughout the month. Measure the Absence Rate and interpret.
 | 1.5% |
| * The company recruited 25 new machine operators. Salaries of recruiting staff, expenses incurred by recruiting staff, candidate background checks, reference checks, etc. resulted in recorded expenditure of Rs.148560. Advertising costs, and Job board postings costed Rs. 850. Calculate the cost per hire and Reflect.
 | As per Std. |
| * The company received 150, 350 and 385 applications from a head-hunting firm for post of Manager, Clerk and Office Assistant respectively. From those, only 25, 128 and 172 candidates could qualify to Screening Calls for the aforementioned positions respectively. Next, only 12, 48 and 23 were invited to Final Interview. Total number of candidates accepting the offer for the said positions were 4, 15 and 14 and finally 02, 06 and 05 candidate received the offer. Measure Yield Ratios & Rates.
 | Min. & Max. Conversion Yield |
| * There are 4 departments viz. Marketing, HR, Sales and Finance. These departments witnessed new hires leaving within first 90 days of their joining. The recorded turnover for respective departments were 15, 2, 1 and 2 against recorded new hiring of 50, 10, 7 and 8. Measure new turnover rate and reflect.
 | 20% |

**Q.3** Imagine you have been engaged as an HR consultant to forecast the demand for labour in a company building the next generation of quantum computers. Consider these facts: The company currently has one production facility in Scarborough. As a result of increased demand for its products, it plans to add a second facility in Pickering next January. The new Pickering facility will operate with one eight-hour shift. Scarborough currently operates with two. Information on last year’s staffing and turnover at the Scarborough facility is summarized in Table 1. You can assume this pattern will be continuing.

Table 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Position | Total Positions Last year | Number promoted | Number demoted | Number exited | Number hired |
| Executives | 4 | 0 | 0 | 1 | 1 |
| Sales Staff | 10 | 1 | 0 | 2 | 3 |
| Management | 6 | 0 | 0 | 2 | 2 |
| Designers  | 19 | 2 | 0 | 6 | 8 |
| Engineers | 20 | 0 | 0 | 6 | 6 |
| Analysts | 20 | 6 | 0 | 12 | 18 |
| Programmers | 32 | 18 | 0 | 14 | 32 |
| Supporting Staff | 15 | 0 | 0 | 6 | 6 |
| Total | 126 | 27 | 0 | 49 | 76  |

Estimate the internal demand for engineers, analysts and programmers for next year by performing Markov Analysis. Use step-wise solution.

**Q.4** A multi-product company produces products A, Band C with per unit profit of 10/-, 6/- and 4/-, respectively. From the company's records, it is evident that they require 1 man-hour planning, 10 man-hour labour and 2 man-hour support services time to produce 1 unit of product A. For product B, such time requirement is I, 4 and 2 hours, and for product B, such requirement is I, 5 and 6 hours, respectively. Based on the manpower availability, the company can make available 100 hours for planning, 600 hours of direct labour and 200 hours for support services time.

# As a manpower planner, apply optimizing technique using linear programming model to prescribe the best solution for a profitable product mix. Use MS-Solver.

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