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Job Analysis, Job Evaluation and Merit Rating

21.1. INTRODUCTION

One of the objectives of a sound wage administration system is to eliminate inequalities in the salaries of the persons working on the same job (comparable jobs) in the same or different organisations. Employees too desire that jobs which are similar in duties and are at the same level of difficulty are paid approximately the same wages while those of greater are paid higher wages. Differences in pay for similar jobs may lead to dis-satisfaction which in turn leads to labour turnover. Therefore a planned comparison of jobs is necessary to restrict the occurrence of such situation. This is possible only if wage structure bases its classification of jobs in terms of their worth or difficulties. Though it is obviously impossible to measure the relative value of company jobs with exact precision, it is possible to rate jobs, in light of its worth.

21.2.DEFINITIONS AND CONCEPT

Job evaluation is the technique used to correct inequalities in wages and install a systematic method of pricing of jobs. It is a systematic process of evaluating different jobs of an organisation.

Job evaluation can be defined as the process to determine, in a systematic and analytical manner, the relative worth of each job in the organisation based on a set of carefully selected factors such as skill needed, responsibilities involved, efforts required and job conditions etc. for the purpose of determining wage differentials.

Jobs are studied or evaluated and numerical value or an approximate classification is assigned to each job. On the basis of the analysis of the job, we can have job description and specification. The relative job values are thus converted into definite wage rates by assigning the money rate of pay to each job according to a definite system or scale.

Job evaluation deals with the job only and not with the individuals who perform these jobs. For

evaluating the individuals another method known as merit rating is used.

Job. A job may be defined as a regular assignment to individual employee involving a set of duties, responsibilities and conditions entirely different from those of other assignments.

Job analysis. Job analysis is a detailed and systematic study of job to determine the tasks, skills, knowledge, abilities and responsibilities required for their successful performance.

Thus, it is the procedure to discover the facts about each job requirement and personal qualities required for satisfactory performance, in such a manner as to distinguish it from all others.

In this procedure the job analyst (or a supervisor properly trained in the technique):

collects information,

(2) prepares job description,
(3) works up job specifications.

The analyst obtains the relevant information about the jobs in a company by (i) observing the performance of jobs (ii) by interview of personnel who can provide reliable information (iii) by circulating questionnaries and then investigating to check the accuracy of the collected data.

The data is usually recorded on pre-printed forms which are tailored made to suit the requirements of a particular company.

The data may be classified as:

Job identification

Nature of the job:

- (i) Major duties
- (ii) Other duties.

Operations to be performed.

Materials and equipments to be used for performing the job.

Skill involved to determine degree of difficulty:

- (i) Education
- (ii) Training
- (iii) Responsibility
- (iv) Job knowledge
- (v) Mental capabilities
- (vi) Desired accuracy.
- Physical demands to determine physical effort required:
 - (i) Physical activities
 - (ii) Surroundings (working conditions)
 - (iii) Hazards.

Relations with other jobs.

Some of the above data relate to the job, and the others to the individuals performing the job. On the basis of these, the job analysis can be divided into two main groups namely:

Job description.

2. Job specificatio:.

Job description is an abstract of information received from the job analysis report. It is an organised statement of the duties, responsibilities, working conditions, and other essential facts about a iob.

Joh description comprises of three parts: Job identification, job summary and work performed. Job identification contains the job title, department, section, the date on which data is collected, job code number, name of the supervisor and similar other details which help identifying the job.

Job summary gives a brief information about the duties performed and how the job differs from other jobs. Job summary is usually helpful in defining the job for quick reference.

Work performed gives the details of the tasks performed (regular as well as occasional tasks), equipment and machines used, working conditions and hazards involved in the job.

Joh specification. Job specification is an outcome of job analysis and description. The job specification is a statement of qualities or abilities that an employee must possess to perform the job in a satisfactory manner.

Therefore, job specification can be defined as "the statement which specifies the type of employees

required. It helps in the selection of employees.

Job specification can be compared with the specification of material. As the material specification helps in purchasing and procurement of right type of material similarly, job specification helps in the selection of employees.

Job specification and job description are the end products of the job analysis and they serve the basis for the job evaluation.

21/3. OBJECTIVES OF JOB EVALUATION

Its main objective is to formulate an appropriate and uniform wage structure.

(ii) Eliminates wage inequalities (reduce wage imbalance).

(iii) Determines relative value of different jobs in an organisation and thereby establishes wage differentials between them.

Clarifies the responsibility and authority associated with the jobs.

Provides a basis for recruitment, selection, promotion and transfer of employees.

Identify need for training of the employees so as to prepare them for future jobs.

(M) Eliminates cause of employees' dissatisfaction and reduces conflicts in industrial relations (i.e. improve employer-employee relations).

JOB ANALYSIS, JOB EVALUATION AND MERIT RATING

War Man Power Commission, USA, published a "Guide for Analysing Jobs." It proposes a four point job analysis formula to be used in making an accurate and useful job study.

These four points are:

- 1. What does the worker do?
- 2. How does he do it?
- 3. Why does he do it?

4. The skill involved in doing it.

It points out that the analyst must establish all the complete scope of the job and consider all the physical and mental activities involved in determining what worker does.

To analyse how the worker does it, the analyst must study the physical methods used by the worker,

use of machinery, tools, his movements and the necessary know-how or mental operations. The 'why' for the job is the overall purpose for which the job is done.

The skill factor is necessary to discriminate between jobs and establish the degree of difficulty of any job. These factors include the experience and training by which the skill is involved and the working conditions and hazards associated with the jobs.

Fig. 21.1 shows the components of job evaluation:

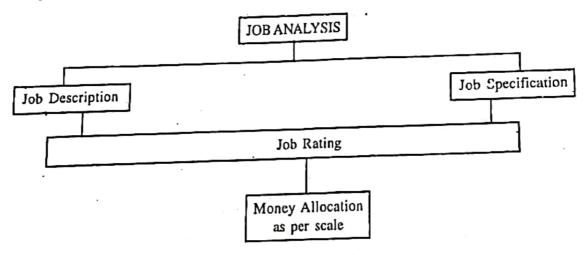


Fig. 21.1. The components of job evaluation.

21,4: PRINCIPLES OF JOB EVALUATION

Mr. A.L. Kress suggested the following eight principles of job evaluation:

And Rate the job and not the man: Job requirements are definite and fixed. The man selected for training may have plus or minus points as regards the job, thus the payments should be made accordingly.

Explainable elements. The elements selected should be as few as possible but should cover

the necessary requirements for every job.

Uniformity of understanding. The success of the job is totally dependent upon the uniformity of understanding. All the elements should be well-defined.

4? The job rating plan must be easily understandable. So that the plan can be easily understood by workers or supervisors.

Co-operation from employees. Foremen, supervisors and even workers should be asked to participate in the rating plan.

Discussion of money values. Discussion on money values should be avoided as it may lead to fighting and quarrels.

Discussion on the job rating plan. Employees must be allowed to discuss job rating plan. Establishment c. wages. Too many occupational wage structures should not be established.

21.5. PROCEDURE FOR INSTALLING JOB EVALUATION (STEPS IN JOB INDUSTRIAL ENGINEERING AND PRODUCTION MANAGEMENT

The basic steps in conducting a job evaluation programme are: Determine the facts about jobs (job analysis).

Describe the requirements of the jobs (job description). Specify the attributes that an employee must possess to perform the job in a satisfactory manner

Determine the relative value or worth of the jobs (job classification).

Compare the job with pre-determined key jobs and arrive at a suitable wage structure (wage The various steps suggested by Lytle for job evaluation are :

1. Most suitable method or technique must be selected.

2. First select the major job characteristics, then minor ones.

- 3. Give proper information to all concerned i.e. workers, foremen etc.
- 4. Build definitions and their measuring scale, for comparison purposes.
- 5. Design job rating forms and questionnaries and collect initial description. 6. Sort out initial descriptions and establish grade or classes.
- 7. Identify and evaluate the key jobs on the basis of their characteristics.

8. Evaluate the remaining jobs and fix job titles to them.

9. While job rating, ensure that the representation of the workers' union has been considered.

10. Make inter-company survey for key jobs but try to find at least one per class.

11. Transfer the rating values in money values temporarily.

12. Plot the scatter diagram for end jobs and most sure key jobs.

13. Bargain on wage structure.

14. Decide the range limits and the line of reference.

15. Re-adjust all the rates relative to the line of reference, put them into working forms and

21.6. METHODS OF JOB EVALUATION

The various commonly used methods of job evaluation are :

Non-quantitative methods

(1) Ranking method (grading method)

(2) Classification method Quantitative methods

9 WFactor comparison method

The point rating method.

1 Ranking method. This is the easiest and simplest method of job evaluation. In this method the jobs are ranked from the most important one to the least important. Each departmental head arranges the jobs in their department in the order of importance. The individual departments pass on their ranking to a central committee who groups the jobs into grades/classes.

While ranking, following points are considered:

Amount of work involved.

Supervision needed.

411) Extent of responsibility required.

Difficulties involved in the work.

Monotony of work.

(M) Working conditions required.

Mii) Knowledge and experience needed.

Advantages:

This method is simple, consumes less time and requires fewer forms.

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(ii) It can be easily mastered and administrated.

(iii) It is suitable for small organisations involving lesser number of jobs to be evaluated.

(iv) It is economical.

Disadvantages:

(i) It is less accurate than other methods, because of judgement factors and also all jobs do not possess the same factors.

(Job A may be more important than job B with respect to certain factors while, job B may be more important than job A with respect to some other factors).

(ii) It lacks in actual information. It only shows higher or lower values but does not show how much one job differs from others.

(iii) It is not suitable for large organisations.

2. Classification method. In this method, jobs are classified or graded in groups or levels of equal skill, difficulty, responsibility, importance and other requirements. It may be production job, a sales job or an office job, each job family can be broken into a number of grades. For example, production jobs may be classified into five grades, namely grade 1 to grade 5. Grade 1 involves simple tasks requiring less skill, precision and accuracy while grade 5 involves skilled, precise and highly accurate work.

The job evaluation by job classification involves following major steps:

(i) Deciding the number of grades (five, six etc.).

(ii) Writing grade level descriptions.

(iii) Identifying/listing of the jobs to be evaluated.

(iv) Preparing job descriptions.

(v) Comparing job descriptions with grade level descriptions and assigning jobs to grades.

Since most of the workmen usually have the mental picture of the ranks into which company's different jobs fall, this makes the method easy to use.

3. Factor comparison method. In this method detailed analysis of the jobs is carried out by employing following five main factors:

(i) Skill

(fi) Mental effort

Working conditions.

(iii) Physical effort (iv) Responsibilities
The various steps involved in the factor comparison method are:

- (i) Identify a few key jobs in the organisation which can be described accurately and assumed to be correctly paid.
- (ii) Analyse the key jobs for each of the five factors mentioned above.
- (iii) The salary paid for each key job is allocated amongst the factors in proportion to their importance in the job, (refer Table 21.1).
- (iv) This provides a money rating scale for each of the factors.
- (v) Each of the remaining jobs is evaluated for each of the factors on its money rating scale of the key jobs. The monetary value of the job is obtained by adding up the individual money values assigned to the job for each of the factors depending upon their importance in the job.

Table 21.1. A sample of analysing key jobs for their factors

				Factor.	5	
Key job	Salary (Rs.)	Skill	Mental effort	Physical effort	Responsibility	Working conditions
J1 J2 J3 J4 J5	1300 1640 2160 2500 3200 Job to be evaluated	240 500 400 540 800 200	100 100 750 380 400 160	200 600 140 900 200 240	600 200 800 320 1100 500	16Q 240 120 360 700 Rs. 300 1400

INDUSTRIAL ENGINEERING AND PRODUCTION MANAGEMENT Table 21.1 shows that key job 3 requires more mental effort on the part of the worker as compared to key 30h 2, whereas key Job 2 requires more skill as compared to key Job 3.

The job X to be evaluated is analysed into these five factors. As per the job requirements determine the importance of each factor in the job, fit the same in the job comparison scale and total the monetary values attached to each. This value for job to be evaluated X comes out to be 200 + 160 + 240 + 500 + 300 = Rs. 1400.

- (i) This method is systematic as it takes into account the basic factors that are present in all types of jobs.
 - (ii) Wages can be obtained by direct comparison.
 - (iii) It can be used for evaluation of unlike jobs.
 - (iv) The method can be employed even by a large organisation.

- (i) The selection of wrong or unfairly paid jobs as key jobs can result in considerable error. (ii) It is a complicated method, it is not easily understood and hence less popular as compared to
- (iii) The method depends upon subjective judgement, different persons may attach different monetary values with each factor for the same importance. It is costly to introduce.
- Point method. The point system a widely used method is based on dividing the jobs into a number of factors which in turn are further subdivided into grades or degrees. Certain points (weightage) is assigned to each grade. (For example, effort is one of the factors which may be subdivided in two grades—physica! and mental) when such points for all the factors are added they indicate the importance of the job in the organisation. The points or weightage assigned to each factor will vary from industry to industry. Point method involves the following major steps:
 - (a) Decide the type of jobs to be evaluated.
 - (b) Select and define job factors which may vary from five to ten.

A few job factors commonly selected are as given below:

•	s are its given below	
1.	Skill (1	Education and training Experience
	L (c) Judgement and initiative
2.	RIIONI	i) Physical b) Mental
3.	(Materials or product .
	Responsibility towards - (b) Equipment or process
		c) Safety of others d) Work of others
4.	Working	Exposure to hazards
	conditions	Dust, smoke, furnes and noise
	conditions	High temperature
		Glares and harmful radiations

While selecting the factors it should be noted that:

- (1) The factors selected must be rateable. For example, education is a rateable factor as it can be specified in varying degrees such as middle school, high school, trade centificate, graduation, postgraduation elc.
 - (2) The number of factors should be as few as possible.
- (3) Only important factors should be selected factors which are present to the same degree in all jobs should not be selected.
 - (4) Each factor should measure only one aspect of the job.

Job Analysis, Job Evaluation

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Select and define grades or degrees to each factor. For example, education and training may have the following factors:

- (i) Diploma in engineering with no training.
- (ii) Diploma in engineering with 2 years apprentice training.
- (iii) Diploma in engineering with 2 years training in machine shop and certificate course in computer applications.
- (iv) Diploma in engineering, A.M.I.E. and 2 years experience.

Assigning points to the degrees/grades:

Each grade/degree is allotted certain points. The first and the last grades possess minimum and maximum points respectively.

For example, if the percentage weight of education factor is 15% and the factor is split into 4 degrees as above, then the points for the degrees would be as under:

Degree	Point value for the degree
1st	15
2nd -	30
3rd	45
4th	60 .

Table 21.2. Illustrative example of factors, degree and their weightages

Factors	Factor	Point v	alues for th	e degrees		
	weightage %	1	2	3	4	5
I. Skill						
(a) Education	20	20	40	60	80	100
(b) Experience	15	15	30	45	60	90
(c) Judgement and						
initiative	15	15	30	45	60	90
2. Efforts						
(a) Physical	10	10	20	30	40	50
(b) Mental	5	5	10	15	20	25
3. Responsibility						
(a) Materials	3	3	6.	9	12	15
(b) Equipments	5	5	10	15	20	25
(c) Safety of others	2	2 5	4	6	8	10
(d) Work of others	5	5	10	15	20	2:
4. Working conditions						
(a) Exposure to hazards	5	5	10	15	20	2
(b) Dust smoke, fumes noise		.5 .5 .5	10	15	20	2.
(c) High temperature	5 5	5	10	15	20	2
(d) Glares, radiations	5	5 -	10	15	20	2
	100%					

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INDUSTRIAL ENGINEERING AND PRODUCTION MANAGEMENT Table 21.2 shows the weightage given to each factor and the points allocated to each grade. Five grades have been assumed for each factor and the points allocated to each grade. Suppose for a particular job, the evaluation is as below:

Factors	3 23
Skill	Points
Effort	80
Responsibility	25
Working conditions	20
	30
Total	155

If it is assumed that 1 point is equal to Rs. 20 then 155 points are equivalent to Rs. 3100 in money value. In this manner, the evaluation is done in point system.

- I. Point method is more accurate and reliable.
- 2. It is less subjective than other methods.
- 3. It is easy to understand and logical to explain.
- 4. It is most widely used method of job evaluation.

Disadvantages:

- 1. Analysis of factors and grades requires large experience and expertise.
- 2. Points allocated to each factor are based on arbitrary grounds. H.7. MERIT RATING

Employees' merit rating is also known as performance appraisal or performance evaluation. It is the assessment of performance of the worker and his utility to the industry. Whereas job evaluation evaluates the job. Merit rating assesses the merit of the person doing the job. It determines the extent to which an employee meets the job requirements. It is basically a controlling and reviewing function.

As we inspect our equipments and machinery periodically to ensure that they are in order and capable of performing intended function, similarly, employees in the organisation need to be inspected periodically to ensure that they produce the desired results. An effective merit rating system is essential if the enterprise wants to make best use of its available manpower. Definition :

Merit rating is a systematic and orderly approach to assess the relative worth of an employee working in an organisation in terms of job performance, integrity, leadership, intelligence, behaviour, aptitude and other qualities which are necessary to carry out his job successfully.

Merit rating can also be defined as "a process and a system for knowing how efficiently and effectively the assigned work is carried out by employees and identifying suitability of employees for other jobs, particularly of higher responsibility in an organisation.

It can also be defined as a systematic evaluation of an employee's performance on the job in terms of the requirements of the job.

Merit rating systematically evaluates the fitness of the employee for a given job in terms of assigned factor. It replaces haphazard, guess work, unmethodical and unrecorded judgement by an unbiased and objective method of assessment, subject to over-riding limitations of human nature. Difference between Job Evaluation and Merit Rating

- 1. Job evaluation evaluates the job, merit rating evaluates the performance of a person doing the
- <u>10</u>b. 2. Job evaluation determines suitable wage structure for the job while, merit rating decides the reward an employee should get in addition to his wages depending upon his merit.
 - 3. Job evaluation does not recognise individual performance or variation within the job. It merely

determines wage and salaries level for jobs. Merit rating on the other hand recognises individual differences or variations within the job. No two individuals are alike in all respects and merit rating points out the relative differences in individual performance.

Benefits and Objectives of Merit Rating

- Merit rating is a good device to increase industrial productivity and to reduce hostility between employers and employees.
- It provides a sound basis in making decisions for promotion, transfer etc. The rating of employees minimizes the chances of arbitrary promotion based on bins and other like considerations.
- 3. It assists in taking decisions about incentives, increments to be given to the workers.
- 4. It provides the basis for counselling the individual employees by pointing out their strengths and weaknesses.
- 5. It increases consciousness of employees and introduces competitive spirit in them.
- 6. It enables the management to decide training needs of the organisation which can be abstracted from merit rating of the employees.
- 7. It checks the effectiveness of recruiting, training and placement of employees and provides a basis for better job reassignment when employees have been improperly placed.
- 8. It promotes a desire for improvement and heightens morale by knowing that management appraises and rewards individual performance and growth.
- 9. It guides and aids employees in their self-improvement and makes possible a close follow-up of their progress.
- It forces the supervisors to know their sub-ordinates more closely since judgement of supervisors are put in writing subject to check at higher level.

21.8. SELECTION OF FACTORS IN SETTING UP RATING METHOD

The performance factors for merit rating must be carefully selected, defined, sub-divided into degrees, and weighed, the data must be incorporated into a rating scale (i.e. scoring form), and instructions must be drawn up for its proper use. The performance factors in the rating scale for supervisors will, therefore differ to some extent from those for manual workers or office employees. The frequently used factors or set of characteristics which determine the merit of the person are:

1 Quality of work
3 Joh knowledge Quantity of work
Dependability and

3. Job knowledge

S. Attitudes as reflected for example, in attendence and safety records and ability to co-operate.

Wersatility.

8 Quality of leadership etc.

Each factor should be precisely defined to secure a common understanding of qualities and consistent standard of appraisal among raters and from one scoring period to another.

To measure the relative influence of a particular factor upon the employee's performance and worth, each factor should be sub-divided into appropriate degrees (usually live) and described in carefully stated phrases. The factors should then be weighed according to their relative importance and in terms of the purpose of rating. Because of the need to justify rating to employees the "objective qualities" (e.g. quality and quantity of output) measures are sometimes given more weight than the subjective qualities". A variety of rating scales are used in industry, a typical format used for employee merit-rating is shown in Fig. 21.2.

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	EMPLOYEE MERIT RATING	+
NAME DAT	E OF REVIEW	
POSITION LOC	ATION	
DEPARTMENT SUP	ERVISOR DATE EMPLOYED	
FACTORS CONSIDERED	RATING AND COMMENTS	
ACCURACY, THOROUGHNESS NEATNESS CARE OF EDUIPMENT AND MATERIALS	COMMENT:	
2 QUANTITY OF WORK AMOUNT OF ACCEPTABLE WORK ACCOMPLISHED - PROMPTNESS IN COMPLETING ASSIGNMENTS	COMMENT:	-
3. DEPENDABILITY ATTENDENCE: PUNCTUALITY AMOUNT OF SUPERVISION REQUIRED	COMMENT:	1
4. ATTITUDE TOWARD COMPANY POLICIES: TOWARD FELLOW EMPLOYEES TOWARD THE JOB-INITIATIVE	COMMENT:	1
S ADAPTABILITY ABILITY TO DO OTHER TYPES: OF WORK TO ADJUST QUICKLY TO JOB CHANGES	EXCEPTIONAL ABOVE AVERAGE DELOW POOR COMMENT:	
6 ADDITIONAL INFORMATION NOTEWORTHY DATA NOT COVERED ABOVE	COMMENT	

Fig. 21.2. Merit rating form.

21.9. METHODS OF	MERIT HATING
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Wi) Ranking method.

(2) Paired comparison method.

Man to man comparison. (4) Check list plan.

4(5) Scale plan.

A. Ranking Method. Ranking is the oldest, simplest and most conventional method. In this method the workers are arranged in rank from best or most satisfactory to worst or least satisfactory. There is another way of ranking by classifying the jobs in a firm in terms of various level of skill or responsibility and rank the workers accordingly. This method however does not indicate points of difference between two or more of them or does not indicate specific strengths and weakness. This method is used in business organisations where there are few employees.

Z. Paired Comparison Method. This is a modified ranking method. In this method each man is compared with every other man, one at a time. Comparison is done with one trait (i.e. ability to perform

the job). For example, A's performance is compared to that of B's, and decision is made concerning whose performance is better. Then A is compared to C, D and E in order. Next, B must be compared with all others, individually. The same approach is used for other personnel. Each time a worker is considered better than the other one point is assigned to him. Once all the possible combinations are considered, points scored by each employee are totalled and he is ranked according to his aggregate score in relation to aggregate score of each other employee. The number of combinations can be worked out with the formula.

Number of comparisons =
$$\frac{N(N-1)}{2}$$

where N = total number of employees to be evaluated.

This method is not suitable where number of employees is large. This method also does not indicate specific strengths and weaknesses.

3. Man to Man Comparison Plan. The plan was widely used in U.S.A. in rating military officers and hence sometimes is also known as Army Rating scale. This is based on five basic characteristics:

(A) Physical qualities.

(o) Intelligence.

(b) Personal qualities.
(d) General value to the service.

Leadership.

Each of the characteristics was sub-divided into five degrees and values assigned to each degree. Thus a person to person comparison of each person or officer was made and his position determined Therefore this is known as Man to Man comparison method.

4 Check List Plan. These are the lists made up of a series of questions or statements which concern

the importance of the employees performance on the job.

5. Scale Plan. This is mostly used in industries. There are many variants of scale plans and all consist of a list of attributes or traits, each being accompanied by scale, for rating the workers.

(a) Percentile of Numerical scale. In this scale numbers are used to indicate the degree of trait e.g. Personality

Personality					
10%	20%	30%	80%	90%	100%
(b) Description So	cale. This gives d	lescription of the d	egree of trait e.g	. Personality	
(v) Description St					
Poor	Fair	Good	Excellen	t	
	Fair	Good	Excellen	t	. personality

Many thinkers in discussing the rating method base their approach on the assumption that the distribution of rating takes the form of well-known normal distribution curve. If there are 5 degrees used in rating each factor, the % distribution of workers receiving each rating from lowest to highest group may be 4%, 24%, 44%, 24% and 4% respectively.

These different categories are explained below:

High grade: exceptionally industrious, keen and intelligent workers.

(2) Low grade: disinterested and lazy workers.

B) Average grade: Includes moderately intelligent and hard worker.

Above average Grades: Good and keen workers better than third grade.

(5) This includes the workers, who are worst than the workers of third grade, i.e. not very interested but do the job.

