

ARCHITECTS AND QUANTITY SURVEYORS REGISTRATION BOARD

P.O Box 72673 Dar es Salaam.

CONSTRUCTION MANAGEMENT

PRACTICAL EXPERIENCE LOG BOOK

Name of Candidate:

Year/Month Of Examination:

TO BE FILLED IN BY HAND

ARCHITECTS AND QUANTITY SURVEYORS REGISTRATION BOARD

PRACTICAL EXPERIENCE RECORD DIARY FOR CONSTRUCTION MANAGEMENT CANDIDATES

1. INTRODUCTION

Practical experience record diary for Construction Management Candidates is divided into 5 main sections as follows:

- 1. General Introduction
- 2. Eligibility for Registration
- 3. Qualification for Supervising Officers
- 4. The Practical Approach

The Diary is designed to guide both the Candidates and Supervisors on the Professional experience required for registration purposes. It is designed in such a manner that the Candidate understands clearly the necessary knowledge, skills and experience required as a prerequisite for registration as a Building Surveyor.

The objective of this examination is to provide a ground work for graduates to acquire a high level of professional competence to be able to penetrate the market and be employed as teaching/staffs in technical colleges, in private and public consultancy or construction firms or self-employed as contractors, consultants, and researchers. However, Building Survey graduates need to practise for at least two years before they sit for registration examinations.

Supervisors for Construction Management can utilize the diary to follow candidates training programmes while for examiners it provides a basis for assessing the extent of knowledge and experience gained by candidates.

Logbook submission: The logbook must be filled by the candidate and submitted to the Board at an interval of three (3) months.

This will assist the current supervisor not to sign off works undertaken when candidates was with previous trainer. In addition the supervisor will have sufficient time to evaluate professional activities conducted by the candidate as recorded, thus providing closer supervision

Diary sheets must be filled in by hand.

Logbooks that will not be submitted on quarterly basis shall not be accepted by the Board.

2. ELIGIBILITY FOR REGISTRATION

Candidates seeking for registration should be holders of Bachelor's degree in Construction Management from a reputable University or equivalent level of education recognized by Tanzania Commission of Universities (TCU) and should have working experience of not less least two years. The training programme for registration purposes should cover two years with a total of 3080 working hours.

3. QUALIFICATION FOR SUPERVISING OFFICERS

Supervisors for candidates seeking for registration should be registered Construction Managers or Quantity Surveyors with a proven experience and capability of supervising and training candidates to acquire adequate guided knowledge in Construction Management.

4. THE PRACTICAL APPROACH

The approach recommended is to break the task into various activities and allocate time required for each item. This is the time estimated to for candidates to gain minimum experience required.

Each candidate should practise for at least two years covering a total of 3080 hours calculated as follows:

One full year of 365 days less 175 days (52 Sundays, Saturdays 52, annual and sick leaves 35 public holidays 14 and 20.50 days to cover for absenteeism and unforeseen circumstances) remaining with 192.50 days. Therefore practising experience for one year covers 192.5 working days or 1540 hours. The time considered for practical experience is therefore 3080 hours in two years

Marks have been allocated to each activity with an overall of 110 marks which will be equated to 100 %. However, points have been allocated depending on the importance of the activity.

Documentary Submission

This comprises of two sections:

- 1. Professional Curriculum Vitae
- 11. Professional Training Diary

Section One: Professional Curriculum Vitae

This comprises of the following:

- (a) Details of full time and / or part time education and dates of examination taken
- (b) The record of practical training undertaken prior to graduation
- (c) Professional experience post graduate
- (d) Details of continuing professional development activities
- (e) Particulars of person involved in supervising and advising throughout the post graduation professional experience.

Section Two: Professional Training Diary

The experience required is broken down into 8 sections as follows:

| SECTION | ΤΟΡΙϹ |
|---------|---|
| 1 | Construction Materials and Technology |
| 2 | Procurement, Estimating and Financial Management |
| 3 | Measurement Conventions and Techniques |
| 4 | Construction Planning, Scheduling and Site Management |
| 5 | Human Resource Management and Legal Aspects of Construction |
| 6 | Development .Appraisal and Investment Analysis for Land Development Projects |
| 7 | Project Financing and Maintenance Management |
| 8 | Other (please describe) |

For each section the number of hours required and the corresponding marks/points assigned is indicated. The candidate is expected to indicate himself the number of hours spent on an activity, and the supervisor will certify this with his name and signature at the bottom of each page. Entries will follow the structure outlined below:

- Activity
- Date
- Total time spent on that activity
- Knowledge acquired
- Other professionals (or consultants) involved
- Comments by the supervisor
- Signature of the candidate and the supervisor

The diaries accepted will be only those issued by the Board and the Board will keep proper record of each diary taken. Candidates are hereby to note that that it is not necessary that training is to be for consecutive two years. The main emphasis should be to meet the minimum mandatory/ recommended hours even if it is for a period exceeding two years.

Candidate who will have acquired the experience prior to the introduction of the new system will be considered accordingly on a historical basis, provided that the board reserves the right to secure further information to authenticate the accuracy of information entered in the Diary

LOG BOOK FOR PRACTICAL TRAINING FOR CONSTRUCTION MANAGEMENT

ASSESTMENT FOR EXPERIENCE REQUIRED FOR CONSTRUCTION MANAGEMENT

| SECTION ONE | I CONSTRUCTION MATERIALS AND TECHNOLOGY | MINIMUM MAN HOURS | TOTAL POINTS | |
|----------------|---|-------------------------|-----------------|--|
| 1.1 | Building Construction Technology | | | |
| 1.1.1 | Construction of residential buildings | 56 | 2 | |
| 1.1.2 | 2 Construction of factory/industrial buildings | 56 | 2 | |
| 1.1.3 | 3 Strength and stability of buildings | 28 | 1 | |
| 1.2 | Building Services Technology | | | |
| 1.2.7 | Electrical installations: | 28 | 1 | |
| 1.2.2 | 2 Water Supply and Sanitary installations | 28 | 1 | |
| 1.2.3 | 3 Air-Conditioning ventilation and lighting | 28 | 1 | |
| 1.2.4 | Fire-fighting installations | 28 | 1 | |
| 1.2.5 | Information and communication technology installation | 28 | 1 | |
| 1.3 | Construction Information Management | 56 | 2 | |
| 1.4 | Quality control procedures in construction | 56 | 2 | |
| 1.5 | Construction Equipment and their classification | | | |
| 1.5.1 | Classification on construction equipment | 28 | 1 | |
| 1.5.2 | 2 Economic life of equipment | 28 | 1 | |
| 1.5.3 | B Equipment preventive maintenance and maintenance costs | 28 | 1 | |
| 1.6 | Building Materials | | | |
| 1.6.1 | Specification and standards for building materials | 28 | 1 | |
| 1.6.2 | 2 Utilization of various waste products in constructions. | 28 | 1 | |
| 1.6.3 | B Sustainability of building materials | 28 | 1 | |
| 1.7 | Civil Engineering Projects | 28 | 1 | |
| 1.8 | Other Related Experience | 28 | 1 | |
| | TOTAL | 616 | 22 | |

| SECTION TWO | PROCUREMENT, ESTIMATING AND FINANCIAL MANAGEMENT | MINIMUM MAN HOURS | TOTAL POINTS | |
|----------------|---|-------------------------|-----------------|--|
| 2.1 | Traditional procurement system/methods, | 28 | 1 | |
| 2.2 | Design and build procurement methods, turn-key method. | 28 | 1 | |
| 2.3 | Public Procurement Act: Preliminary provisions, the Public Procurement Authority | 28 | 1 | |
| 2.4 | The Public Procurement (Goods, Works, Non Consultant Services and Disposal of Public Assets by Tender) procedures | 28 | 1 | |
| 2.5 | Estimating for quantities of work and materials | 56 | 2 | |
| 2.6 | Calculations of unit rates: Material, labour and plant 28 and equipment | | | |
| 2.7 | Estimating for prices of building materials | 28 | 1 | |
| 2.8 | Estimating for prices of building services | 28 | 1 | |
| 2.9 | Pre-tender planning and tender adjudication | 56 | 2 | |
| 2.10 | Estimating and pricing of profit and overheads | 28 | 1 | |
| 2.11 | Pricing of Preliminary and general clauses | 28 | 1 | |
| 2.12 | Other Related Experience | 28 | 1 | |
| | TOTAL | 392 | 14 | |

| SECTION THREE | MEASUREMENT CONVENTIONS AND TECHNIQUES | MINIMUM MAN HOURS | TOTAL POINTS | |
|------------------|---|-------------------------|-----------------|--|
| 3.1 | Physical Measurement from Existing Works | 56 | 2 | |
| 3.2 | Measurement from Drawings | | | |
| 3.2.1 | Measurement of New Building Works | 84 | 3 | |
| 3.2.2 | Measurement of Rehabilitation Works | 56 | 2 | |
| 3.2.3 | Measurement of Civil Engineering Projects | 56 | 2 | |
| 3.2.4 | Measurement of Building Services | 56 | 2 | |
| 3.3 | Measurement of Variations | 84 | 3 | |
| 3.4 | Preliminaries, Preambles, Day works, Prime Cost and Provisional Sums Sections of BOQ | | | |
| 3.4.1 | Preliminaries | 28 | 1 | |
| 3.4.2 | Preambles | 28 | 1 | |
| 3.4.3 | Day works | 28 | 1 | |
| 3.4.4 | Prime Cost and Provisional Sums | 28 | 1 | |
| 3.5 | Different forms of bills of quantities | 28 | 1 | |
| 3.6 | Writing specifications for work items | 28 | 1 | |
| 3.7 | Other Related Experience | 28 | 1 | |
| | TOTAL | 588 | 21 | |

| SECTION FOUR | CONSTRUCTION PLANNING, SCHEDULING AND SITE MANAGEMENT | MINIMUM MANHOURS | TOTAL POINTS | |
|-----------------|--|---------------------|-----------------|--|
| 4.1 | Construction schedules, Scheduling methods; Network techniques- CPM, PERT, PDM | 28 | 1 | |
| 4.2 | Choice of Technology and Construction Methods | 28 | 1 | |
| 4.3 | Construction Financial Management | 56 | 2 | |
| 4.4 | Construction Information Management | 28 | 1 | |
| 4.5 | Site Operations and Management | 28 | 1 | |
| 4.6 | Construction Project Control | 56 | 2 | |
| 4.7 | Quality Control and Measurement | 56 | 2 | |
| 4.8 | Sustainable Construction Practices | 28 | 1 | |
| 4.9 | International Projects: governmental and construction industry requirements of safety and loss control regulations | 28 | 1 | |
| 4.10 | Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) | 28 | 1 | |
| 4.11 | Other Related Experience | 28 | 1 | |
| | TOTAL | 392 | 14 | |

| SECTION FIVE | HUMAN RESOURCES MANAGEMENT AND LEGAL ASPECTS OF CONSTRUCTION | MINIMUM MANHOURS | TOTAL POINTS | |
|-----------------|---|---------------------|-----------------|--|
| 5.1 | Safety and Occupational Health Hazards | 28 | 1 | |
| 5.2 | Organization and Human Resource Management | 28 | 1 | |
| 5.3 | Site Safety Management | 28 | 1 | |
| 5.4 | Construction Laws: Environmental laws, labour laws and Arbitration Act | 28 | 1 | |
| 5.5 | Construction Contracts | 28 | 1 | |
| 5.6 | Project Risk Management | 56 | 2 | |
| 5.7 | Safety Precautions in construction operations and equipment handling | 28 | 1 | |
| 5.8 | Statutory Safety Requirements/ Safety Management | 28 | 1 | |
| 5.9 | Construction Information Management | 56 | 2 | |
| 5.10 | Construction Insurances, bonds and guarantees | 28 | 1 | |
| 5.11 | Contract documents: the agreement, specifications, drawings, bills of quantities, work program28 | | 1 | |
| 5.12 | Other Related Experience | 28 | 1 | |
| | TOTAL | 392 | 14 | |

| SECTION SIX | DEVELOPMENT APRAISAL AND INVESTMENT ANALYSIS FOR LAND DEVELOPMENT PROJECTS | MINIMUM MAN HOURS | TOTAL POINTS | |
|----------------|---|-------------------------|-----------------|--|
| 6.1 | Development of business plans; | 28 | 1 | |
| 6.2 | Situational Analysis of the Small Business Sector in Tanzania | 28 | 1 | |
| 6.3 | Methods of Investment Appraisal | 28 | 1 | |
| 6.4 | Payback period: Accounting Rate of Return and Discounted Cash flow Techniques (DCF) | 56 | 2 | |
| 6.5 | Lease/purchase decision; Type of information required; | 28 | 1 | |
| 6.6 | Entrepreneurship | 28 | 1 | |
| 6.7 | Management of project financial resources. | 28 | 1 | |
| 6.8 | Criteria for investment/Special features of real property in investment | 28 | 1 | |
| 6.9 | Developer's budget/working Capital Operating costs and the effect of depreciation | 56 | 2 | |
| 6.10 | Other Related Experience | 28 | 1 | |
| | TOTAL | 336 | 12 | |

| SECTION SEVEN | PROJECT FINANCING AND MAINTENANCE MANAGEMENT | MINIMUM MAN HOURS | TOTAL POINTS | |
|------------------|---|-------------------------|-----------------|--|
| 7.1 | Project feasibility study | 28 | 1 | |
| 7.2 | Developing and monitoring construction budgets | 28 | 1 | |
| 7.3 | Value engineering processes/Job Plan | 28 | 1 | |
| 7.4 | Value management key techniques. | 28 | 1 | |
| 7.5 | Maintenance Management | 28 | 1 | |
| 7.6 | Post occupancy evaluation | 28 | 1 | |
| 7.7 | Statutory Requirements for Building Maintenance | 28 | 1 | |
| 7.8 | Classification of maintenance works, modernization/renewal Refurbishment and Rehabilitation | 28 | 1 | |
| 7.9 | Maintenance cycles, profiles and system | 28 | 1 | |
| 7.10 | Concepts of planned Maintenance, Maintenance plans, scheduled Versus unscheduled maintenance; | 28 | 1 | |
| 7.11 | Estimating for Maintenance: | 28 | 1 | |
| 7.12 | Problems and prospects of Maintenance | 28 | 1 | |
| 7.13 | Other Related Experience | 28 | 1 | |
| | TOTAL | 364 | 13 | |



| 1. Project Name: | |
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| Sub-section: | | |
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| Date of task: | From | То | |
|---------------|------|----|--|
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| 2. | Specific tasks undertaken: |
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| 3. | Relevant output: |
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| 4. Problems experienced: |
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| 5. Solution adopted: |
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| 6. Total hours spent: |
| 7. Other Consultants (if any): |
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| |
| 8. Contractors (if any): |
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| |
| 9. Candidate's signature: |
| 10. Supervisor's recommendation: |
| |
| Supervisor's name: |
| Supervisor's name: |
| Supervisor's signature and rubber stamp: |
| Data: |
| Date: |

Note: where the above space is not sufficient for a given report item, additional pages should be used following the same format.

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DECLARATION FORM

| I | | | |
|--|--|--|--|
| Index NoID NO | | | |
| hereby declare that the work I have submitted to the Architects and Quantity | | | |
| Surveyors Registration Board of Tanzania as part of my Professional | | | |
| Examinations for the Year is a true record of the work done | | | |
| by me under the guidance of the following Registered persons | | | |

| Name | Registration No. | Signature |
|---------------------|------------------|-----------|
| | | |
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| | | |
| | | |
| Candidates Signatur | ·e | |



ADMISSION TO PROFESSIONAL PRACTICE

ENTRY EXAMINATION

Certificate of Practical Experience

| This is | to certify that | (full name of applicant) | | |
|---|---|---|--|--|
| had co | ntinuous full-time experience* in my office from | to | | |
| | and that under direction he/she was involved in the hand side box and put hours in the right hand side box. | the following areas of work: Please tick (V) in | | |
| | Construction Materials and Technology | | | |
| | Procurement, Estimating and Financial Management | | | |
| | Measurement Conventions and Techniques | | | |
| | Construction Planning, Scheduling and Site Management | | | |
| | Human Resource Management and Legal Aspects of Construction. | | | |
| | | | | |
| | Development .Appraisal and Investment Analysis for Land Develop | | | |
| | Project Financing and Maintenance Management | | | |
| | Other (please describe) | | | |
| *lf em | ployment has been part-time indicate here the number of h | nours per week | | |
| | | | | |
| Job Title of Applicant | | | | |
| Name of Supervisor (Print) | | | | |
| Professional Qualifications of Supervisor | | | | |
| Name of Principal/Employer (Print) | | | | |
| Name of Practice/Company | | | | |
| Address of Practice/Company | | | | |
| Business of Practice/Company | | | | |
| | | | | |
| Signa | ture and Stamp of Principal/Employer | Date | | |
| Please complete if applicable | | | | |
| This is to certify thatEnglish language ability is adequate for | | | | |
| • | endent practice. e note: a separate Certificate must be submitted. | | | |
| 1 1003 | e note, a separate vertineate must be submitted. | | | |