



**PROFESSIONAL PRACTICE EXAM – 27 MARCH 2014**

**PAPER 2: This is an open book paper.**

**Answer all questions**

<b>Total marks for this paper</b>	<b>-</b>	<b>100 marks</b>
<b>Time allowed for Paper 1</b>	<b>-</b>	<b>3 hours</b>
<b>Pass mark for the examination</b>	<b>-</b>	<b>55% per paper with an average of 60% for the two papers combined.</b>

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**NOTES TO EXAMINEES / CANDIDATES**

THIS EXAMINATION HAS BEEN BASED ON THE JBCC PBA EDITION 6 AND THE MWA EDITION 5.

**1. QUESTION 1 (20 Marks)**

a. Using the Table below, indicate by means of a tick mark (✓), whether the Principal Contractor will or will not be entitled to a Revision of the Date for Practical Completion in the following 5 scenarios and also indicate whether he will or will not qualify for an adjustment to the Contract Value: (10)

- i. Scenario 1:  
The site is handed over to the contractor 2 months after the date stipulated in the tender document;
- ii Scenario 2  
The Principal Contractor fails to order the specified imported marble floor tiles on time;
- iii Scenario 3

The Principal Contractor is instructed to execute additional work, for which the quantity in the Bills of Quantities is not sufficiently accurate;

iv. Scenario 4

A Direct Contractor fails to complete his work on time and causes a delay;

v. Scenario 5

Above average rain fall causes flooding in the whole city where the site is located, causing no access to the site for a period of time ;

	Entitled	Not Entitled	Qualifies	Doesn't Qualify
Scenario 1	✓		✓	
Scenario 2		✓		✓
Scenario 3	✓		✓	
Scenario 4	✓		✓	
Scenario 5	✓			✓

Note to the Markers:

Each Scenario must have at least 2 tick marks (✓), as indicated.

- b. Very briefly describe the differences between the following: (5)
- i. Free issue and Prime Cost Item
  - ii. Defect and Latent Defect
  - iii. Penalties and Damages
  - iv. Contract Sum and Contract Value
  - v. Budgetary Allowance and Provisional Sum

Answer: Use Definitions in the front of the JBCC PBA

(The information below was copied from the JBCC PBA)

**FREE USSUE: Materials and goods** provided at no cost to the **contractor and/or the subcontractor** by the **employer** for inclusion in the **works** whether stored on or off the **site** or in transit

**PRIME COST AMOUNT: An amount** included in the (n/s subcontract) **contract sum** for the delivered cost of **materials and goods** obtained from a supplier as instructed by the **principal agent**

**DEFECT: Any aspect** of materials and workmanship forming part of the **works** that does not conform to the **contract documents**

**LATENT DEFECT:** A **defect** that a reasonable inspection of the (n/s **subcontract**) **works** by the **principal agent** and/or **agents** would not have revealed

**PENALTY:** The stipulated amount per **calendar day** [CD] payable by the **contractor** to the **employer** where the date or the revised date for **practical completion**, whichever is the later, has not been met

**DAMAGES:** Proven financial loss claimed or awarded to compensate the **contractor** where the **subcontractor** has not completed the **subcontract works** in accordance with the **contract documents**

**CONTRACT SUM:** The accepted tender amount, inclusive of **tax**, that is not subject to adjustment [CD]

**CONTRACT VALUE:** A monetary value initially equal to the **contract sum** that is subject to adjustment in terms of the **agreement**

**BUDGETARY ALLOWANCE:** An amount included in the **contract sum** for work intended for execution by the **contractor**, the extent of which is identified but not detailed

**BUDGETARY ALLOWANCE:** An amount included in the **n/s subcontract sum** for work intended for execution by the **subcontractor** the extent of which is identified but not detailed

**PROVISIONAL SUM:** An amount included in the **contract sum** for the supply and installation of work by a **subcontractor**

- c. List 5 events or circumstances which could be included under Force Majeure. (5 Marks)

**Answer:** Any 5 as listed under the definition of Force Majeure.

**FORCE MAJEURE:** An exceptional event or circumstance that!

- (a) could not have been reasonably foreseen
- (b) is beyond the control of the **parties**, and
- (c) could not reasonably have been avoided or overcome !

Such an event may include but is not limited to:

- Acts of war (declared or not), invasion, and hostile acts of foreign enemies
- Insurrection, rebellion, revolution, military or usurped power, war (whether declared or not), terrorism
- Civil commotion, disorder, riots, strike, lockout by persons other than the **contractor's** employees or his **subcontractors**
- Sonic shock waves caused by aircraft or other aerial devices, and ionising or radioactive contamination
- Explosive materials, except where attributable to the **contractor's** use of such technology
- Natural catastrophes including earthquakes, floods, hurricanes, or volcanic activity

## 2. QUESTION 2

(20 MARKS)

In a contract in which you are the Principal Agent and in which the agreement between the Employer and the Principal Contractor is the JBCC Principal Building Agreement, what is the contractual position in each of the following separate situations, and what action, if any, should be taken and who should take it?:

- a. A number of door handles, which were specified by Trade Name for a multi storey apartment project and without the Contractor's right of substitution, and which appeared to be satisfactory when installed, develop faults due to a manufacturing defect. The defects become apparent just before Practical Completion and the Principal Agent instructs the Contractor to replace them at his own expense. The contractor refuses, saying that he is not responsible for the defects. (5)

Answer:

Latent defects in materials specified by trade name and where the Contractor has no right of substitution is a works risk exception<sup>1</sup> and in terms of clause 8.5.5<sup>2</sup>, the contractor is not liable<sup>3</sup>. The contractor must nevertheless carry out the contract instruction to replace the valves but not at his own cost and must be paid to do so<sup>4</sup>. The right of action against the supplier/manufacturer is ceded by the contractor to the employer in this clause<sup>5</sup>.

- b. In a contract for an addition to an existing factory, a quantity of new Free Issue sanitary ware is handed over to the Contractor by the Employer and stored in a newly lockable room in a part of the new addition, but stolen prior to Practical Completion. You instruct the PC to replace the stolen items at his expense, but he argues that he is not responsible for theft, as there are many of the Employers workers in the existing part of the factory every day and it could have been one of the Employer's employees who stole these items. (5)

Answer:

The Contractor is fully responsible for the works up to practical completion (8.1)<sup>1</sup> including Free Issue materials supplied by the employer (8.3.2)<sup>2</sup>. As the sanitary ware were stored in the new room, this was obviously part of the works (not the existing building).<sup>3</sup> The contractor is responsible for the replacement of the sanitary ware at no cost to the employer<sup>4</sup> and may endeavour to recover from the Contract Works insurers – the contractor would need to report the theft to the police in order to obtain a case number for insurance purposes. The schedule indicates which party arranged the insurance and which party is liable for the payment of the deductible<sup>5</sup>

- c. On the practical completion list issued to the contractor, the principal agent instructed the contractor to replace certain built in cupboard doors which he considers to be excessively warped.

The contractor satisfactorily completes all the other items on the list but refuses to replace the doors, alleging that the principal agent is being unreasonable in condemning them. He demands that the principal agent issues the certificate of practical completion. The principal agent refuses to do so until the doors have been replaced and warns the contractor that penalties for non-completion will be claimed (5)

#### Answer

The certificate of practical completion has not yet been issued – in terms of 19.3.3, the principal agent shall forthwith identify the items on the updated practical completion list (19.32.2)<sup>2</sup> that are not yet completed and inform the contractor thereof.

In terms of clause 17.0 the principal agent may issue a contract instruction for the removal and replacement of the defective items (17.1.7/8)<sup>3</sup> and a list for practical completion (17.1.12)<sup>4</sup>

Should the contractor fail to proceed with due diligence with a contract instruction, the principal agent may notify the contractor to proceed within 5 working days from receipt of such notice. Without further notice, on default by the contractor, the employer may employ other parties to give effect to such contract instruction in addition to any other rights that the employer may have<sup>5</sup>. The employer may recover expense and loss (33.0) resulting from such employment (27.2.9)<sup>6</sup>

- d. During a Practical Completion inspection of an addition of a new Neonatal ICU to an existing hospital, the Principal Contractor informs you that the Selected Subcontractor responsible for the medical gases installation, has unfortunately not yet connected the gases to all the bedhead pendants, but he is busy with it and should be complete by lunch time the following day, but that these are the only incomplete items. After briefly walking through the new facility, it becomes apparent to you that there are other minor issues still not complying with standards for achieving Practical Completion, such as critical equipment power outlet sockets still without cover plates, dust covers over some smoke detectors etc.

He asks you if, seeing that it's a matter of a day's outstanding work and because he doesn't want to waste your time in driving there again the following day, whether you would be willing to issue the Practical Completion Certificate. (5)

#### Answer

Any delay occasioned by a Selected Subcontractor is the liability of the Principal Contractor. <sup>1</sup> According to 19.2.1 the PC must assess the works and be certain that PC has been achieved<sup>2</sup>, prior to calling the PA for an inspection. Although very near to Practically Complete, the outstanding items, given the nature and end use of the building, being that of life care of newly born infants, are critical to Practical Completion.

## QUESTION 3 – EXTRACT FROM SAIA STUDY GUIDE

3. PROJECT ADMINISTRATION  
3.500 TENDERS  
3.510 TENDERS & PROCEDURES

3.511 TENDERING PROCEDURE



### INTRODUCTION

The operations of an architect can often be impaired due to misunderstandings or errors arising in tendering. This is particularly the case where a tendering process is not carefully and remorselessly controlled.

#### 1 RECOMMENDED PROCEDURE

#### RECOMMENDED PROCEDURE

- Submission of tenders should always be in sealed envelopes
- The opening of tenders should be performed in front of any of the tenderers wishing to attend.
- This should occur at a previously notified fixed time, date and place.
- The tender amounts should be read out and whether the tenders are qualified, identified. It is not appropriate to define the nature of any qualifications, merely to say that they are qualified and the adjudication will take account of any qualifications submitted.

#### 2 PROBLEMS

##### 2.1 TENDERS RECEIVED ON FAX AND E-MAIL

#### FAX OR E-MAIL

Problems can arise when tenders are submitted by fax or e-mail. Arguments subsequently arise about the status of a tender which has apparently been transmitted prior to the tender opening date, but this is not apparent at the formal opening of tenders in front of the tenderers.

##### 2.2 CONFIDENTIAL SUBMISSION

#### PRINTED FORM, SEALED ENVELOPE

Architects are advised that in no circumstances should they accept tenders other than on a printed form of tender, submitted in a sealed envelope at their offices in time for the tender opening.

##### 2.3 LATE ARRIVALS

#### LATE TENDERS

In the event that a tender arrives late and the tender-opening process is underway, then it should be opened only with the consent of the tenderers present, with such consent being clearly identified in any subsequent report on the tenders. Should any tenderer's representative object to a late delivered tender, it should not be admitted.

#### 3 RECORDING & ADJUDICATION

##### 3.1 RECORD

#### RECORD

It gives a good impression for the architect to prepare a single sheet with the names of the tenderers and to have this available on the table so that each of the firms' representatives present can write in the amounts of the tenders and whether or not the tenders are qualified.

##### 3.2 ADJUDICATION

#### PREQUALIFICATION & ADJUDICATION

When the lowest tender is not qualified then, by implication, it should be awarded the contract. In the event that the lowest or any other tenders are qualified, then the financial and any other effect, such as of construction period, should be evaluated in the adjudication and reported upon to the client, together with a recommendation as to tenders to be accepted, giving reasons where appropriate.

##### 3.3 THE LOWEST TENDER

#### LOWEST TENDER

It is ordinary law that, unless a previous undertaking to the contrary has been issued, then neither the lowest nor any tender need be accepted.

The PC is obviously hoping for some leniency from the PA and wanting to play on the effort of having to drive again the following day.

The PC should have contacted the PA, at least via phone, before the PA embarked on the journey to the site and informed the PA of the outstanding items, at which point the PA would have very likely post-poned the inspection to a latter date<sup>3</sup>, something the PC would try to avoid in view of penalties.

The PA could inspect the works, but should not issue the PCC<sup>4</sup>, and should issue the PC with an updated PC list (19.3.2)<sup>5</sup>. Penalties should start applying as well forthwith from that date, which should be included in the next Recovery and Loss Statement (24.3)<sup>6</sup>

**3. QUESTION 3 (20 MARKS)**

*(Extract from Study Aid attached for reference purposes)*

**Tender Procedures**

- a. Briefly describe the Recommended Tender Procedures to be followed for the submission of tenders. (8)

*Answer : Section 3.511 of the SAIA PPE Study Aid*

- b. Briefly discuss the problems associated with tenders, with specific reference to:

- i. Faxed or emailed tenders<sup>3</sup>
- ii. Confidentiality<sup>3</sup>
- iii. Late arrivals / submissions of tenders<sup>3</sup> (9)

*Answer : Section 3.511 of the SAIA PPE Study Aid*

- c. List 3 processes related to tender results announcements, in other words, name 3 things that should be done when tenders are received. (3)

*Answer : Section 3.511 of the SAIA PPE Study Aid*

*(Record<sup>1</sup>, Adjudication<sup>1</sup> and Acceptance<sup>1</sup>)*

**4. QUESTION 4 (20 MARKS)**

**Preliminaries**

All amounts given in this question, are excluding VAT.

The Contract Sum, for a new Petrol and Service Station on which you have been appointed as the Principal Agent, amounts to R51,567,058.65c, where the JBCC Principal Building Agreement has been used. It is a Contract with Quantities.



Authorised Adjustments to the Contract Value to date, amount to omissions of minus R435 976.18c.

The contractor selected Option A for the Adjustment of Preliminaries in the Contract Data and in accordance with requirements, submitted his Preliminaries breakdown to you within the required 15 Working Days as R 4 907 397.18c, which is included in the Contract Sum. In his breakdown of the Preliminaries Amount, the Contractor has indicated the following ratio for the Adjustment of the Preliminaries:

- 12% shall not be varied
- 14 % shall be varied in proportion to the Contract Value
- 74% shall be varied in proportion to the Construction Period

The Construction Period is 145 working days.

The Contractor claims for a revision to the Date of Practical Completion by 17 calendar days (which includes 2 weekends), with an Adjustment to the Contract Value, in respect of delays caused by the late delivery of Free Issue floor tiles and 12 calendar days (which includes one weekend) in respect of delays caused by the late issue of Structural details.

Questions:

- 4.1 State whether you will allow one (and which one) or both claims and indicate the amount of days Revision to the Date of Practical Completion that the Contractor will be entitled to, if any. (5)

*Answer:*

*The contractor is entitled<sup>1</sup> to a revision to the Date of Practical Completion by 14<sup>2</sup> working days (17 calendar minus 4 non-working days) in the 1<sup>st</sup> instance and by 10<sup>3</sup> working days (12 calendar minus 2 non-working days) in the 2<sup>nd</sup>, therefore 24<sup>4</sup> working days in total<sup>5</sup>.*

- 4.2 State whether the Contractor will be entitled to an Adjustment to the Contract Value in respect of the Adjustment of Preliminaries in proportion to the Construction Period. Make specific reference to the relevant JBCC PBA clauses upon which you are relying. (3)

*Answer*

*An Adjustment to the Contract Value will be due<sup>1</sup> in respect of the 24-working day extension of time in respect of delays caused (PBA 23.2.5<sup>2</sup> and 23.2.6<sup>3</sup>)*



**2.4 PROVISIONAL QUANTITIES CONTRACT**

**PROVISIONAL QUANTITIES DEFINITION**

This is a "Quantities Contract" with the exception that the quantities provided by the quantity surveyor are measured "provisionally" and are subject to re-measurement upon completion of the work. The main reason for the use of this type of contract is to enable it to be awarded at an early stage when full documentation is not yet available. The degree of accuracy of the provisional quantities is dependent on the information available at the time of preparation of the provisional bills of quantities. Inspired guesswork by the quantity surveyor is often needed, based on familiarity of working with the architect.

**2.41 Advantages of the Provisional Quantities Contract**

**ADVANTAGES**

- A certain amount of basic design and planning is achieved before going to tender.
- Contractors have a uniform basis for competitive tendering.
- Variations can be evaluated before being incorporated.
- The employer is provided with a fair indication of the probable final cost.
- There is a reasonably sound basis for the calculation of monthly payment certificates.
- There is a sound basis for cost analysis and a reasonably sound basis for cost control.
- Final cost can be assessed reasonably accurately even before the final account is prepared.
- The Master Builders' Associations do not object to their members tendering in competition on projects where provisional bills of quantities are provided.
- The quantities are taken-off by an independent quantity surveyor and tenderers do not each have to "take-off" their own quantities.
- The time required for tender documentation is less than that required for the ordinary quantities contract.
- Apart from the drawings and the quantities used, the contract conditions are fully set out and documentation is of a high calibre, which facilitates sound financial control and also control over the workmanship and materials used. Total control becomes a team effort by skilled professional people acting independently yet in collaboration in the best interests of the carrying out of the contract.

**2.4.2 Disadvantages of the Provisional Quantities Contract**

**DISADVANTAGES**

- Due to the lack, at an early stage where the release of documentation is delayed, confusion may occur during building operations. Accuracy tends to be sacrificed for speed, errors are liable to occur. Some errors may prove costly to put right and can cause serious budget overruns.
- Due to the comparative ease with which variations can be evaluated, hasty decisions may be made on the assumption that variations and revisions can be made at a later stage. Some of these may be critical to other decisions which can only be altered subsequently. Chains of variations may occur.
- In this type of contract, time is usually a critical factor. Often, therefore, the contractor will have little time to optimise an overall cost planning and cost-control techniques. There will often be less time at the disposal of the architect, the quantity surveyor, the engineer and the other professionals for preliminary planning. The normal decision making process has to be accelerated and the attendant risk accepted by the client.
- To minimise delays in documentation and to hasten the start of building activities, it may be necessary to appoint, at an early stage and as nominated sub-contractors, those ordinary subcontractors usually appointed by the successful tenderer. This, however, restricts both design and tendering freedom and prevents the early letting on selected subcontracts in the JBCC Systems.
- In an endeavour to speed up documentation the temptation could be towards an excessive use of patent and trade names in specifying or describing items. This could result in a higher tender price due to restrictions placed on the tenderer's freedom of choice of less costly though equally acceptable items, and also by interrupting long established and financially beneficial relations with the contractor's suppliers and dealers. In JBCC contracts the specification of trade named products places responsibility for loss due to their use on the employer.

**2.5 COST-PLUS CONTRACT (PERCENTAGE OR FIXED FEE FORM)**

**COST-PLUS**

This contract consists of an agreement between the employer and the contractor whereby the employer undertakes to compensate the contractor for all his costs (and cost must, of necessity, be carefully defined). In addition a specific percentage, or fixed amount, is paid to the contractor to provide for overheads and profit.

**DEFINITION**

This is a form of contract with significant financial risk for the employer but with little or no risk to the contractor. There are, however, certain specific uses, such as alterations, for which this form of contract is particularly suited.

With this form of contract the composition and duties of the professional team remain the same. The exception to this is that the quantity surveyor assumes the role of technical auditor of the contractor's accounts, but with no means of controlling expenditure.

**2.5.1 Advantages of the Cost-plus Contract**

**ADVANTAGES**

- It is one of the quickest ways of letting a contract and therefore of commencing building operations.
- Generally this type of contract is negotiated with a single contractor and hopefully, because the employer has implied confidence in the particular contractor, the contractor could be expected to give special attention to the work.

**2.5.2 Disadvantages of the Cost-plus Contract**

**DISADVANTAGES**

- In the case where the contractor's overheads and profit are paid for on a percentage basis, then higher costs mean higher rewards to the contractor and so wastefulness and inefficiency is not discouraged. Generally extravagance in expenditure (waste of materials and labour in particular) and lack of efficiency can mark this type of contract. The less efficient the contractor, the greater his reward.
- Strict supervision of costs has to be exercised at all times and accuracy in this regard is not always possible.
- There are very limited means of determining whether prices, or charges, submitted by the contractor are best market prices, or economical prices.
- Because this form of contract seldom incorporates bills of quantities in any form or even schedules of rates, the quantity surveyor's services are frequently dispensed with. The absence of a financial controller, with professional qualifications, in any contract as open as a cost-plus contract, may have serious financial repercussions.
- Where errors in construction occur, it may be difficult to apportion expenses or fix the blame in this type of contract.
- Because bills of quantities are not used, high standards in contract documentation may not be achieved.
- Budget decisions are complicated by the fact that the final cost of the contract cannot be known, or even assessed, until the final account stage is reached.
- Where the contractor is required to rectify errors in construction at his own expense it may be well nigh impossible to separate the expenses for which the contractor is responsible from those for which the employer must pay the contractor.
- Unless there is a very clear definition from the outset of "total net cost" far too much discretion as to what may or may not be included is left to the contractor. Internal charges, hire charges, residual values for plant and equipment at the beginning, during constructions and at the end of the contract, are just a few that bear mention. Claims for extension of time and many other of the normal items incorporated in the normal conditions of building contract, may also be difficult to handle.

**2.6 COST-PLUS CONTRACT WITH A TARGET OR CEILING FIGURE**

**COST-PLUS WITH CEILING DEFINITION**

This is similar to a cost-plus contract but with the target or ceiling figure added to peg the upper limit of cost, and consequently reduce the risk to the employer of unfettered expenditure. Whether the risk to the employer is, in fact, reduced or limited depends to a great extent on the reliability of the target figure. The target figure is an estimate which at best can only act as a guide. A clause is generally provided for a sharing of any saving on the target price between the employer and the contractor.

**2.6.1 Advantages of the Cost-plus Contract with a Target or Ceiling Figure**

**ADVANTAGES**

- The advantages listed under Cost-plus contracts apply equally to this type of contract.
- Because there is a target figure, this type of contract does offer some inducement to the contractor to trim and control costs as far as possible. The clause providing for the sharing of savings will act as a further inducement for the contractor to work economically.
- The fair sharing of risks, bearing in mind that the employer must still pay for what he gets, tends toward the creation of a harmonious working environment for the execution of the contract.

**2.6.2 Disadvantages of the Cost-plus Contract with a Target or Ceiling Figure**

**DISADVANTAGES**

- The disadvantages listed under Cost-plus contracts apply to this type of contract as well but less forcefully.
- The employer may suffer subsequently from any skimping in respect of materials and workmanship by an overzealous contractor trying not to exceed the target figure.
- An error in the estimated target or ceiling figure may jeopardise the whole intention of the contract. The effects of extreme over-or-under-estimation can well be imagined. It can be extremely difficult to arrive at a reasonable target figure bearing in mind that the information available at the stage the contract is negotiated is usually incomplete.

**2.7 “BASIC BILL” CONTRACT**

**BASIC BILL**

This form of contract, often describes as with ‘builders quantities’, may be loosely described as a schedule of rates comprising items similar to those in bills of quantities but with “estimated” quantities added. The contractor prices the “Basic Bill” and his work is measured and valued accordingly as and when it is completed.

**DEFINITION**

The quantity surveyor derives the “Basic Bill” from this estimate, which is usually based on approximate quantities measured from sketch plans and grouped into elements broken down to component level.

The elements and components of the approximate quantities estimate are separated and expanded into schedules of their respective main bills of quantities items. Ancillary items normally accounted for in the pricing of such estimates are then added to the schedules together with quantities roughly assessed in relation to the main bills of quantities item.

The accuracy of the “Basic Bill” is dependent on the relative accuracy of the approximate quantities estimate.

**2.7.1 Advantages of the Basic Bill Contract**

**ADVANTAGES**

- The advantages listed under Schedule of rates Contracts and point 1 listed under Cost-plus Contracts apply to this type of contract with varying force.
- Quantities incorporated in the basic bill of quantities lend some meaning to the rates the tenderers will apply, thus minimising the disadvantage of the “out of context” pricing implicit in schedule of rates contracts.
- Evaluation of tenders is a fairly straightforward process similar to the evaluation of tenders for quantities contracts and provisional quantities contracts.
- Since the basic bill is, in effect, an expansion of a detailed estimate and should reconcile with the estimate, differences will be highlighted. Once these have been resolved the employer will have a reasonably good indication of what the final cost is likely to be. This will facilitate the financial arrangements for the contract.
- Provided that no significant changes to the work are made, the basic bill can form a reasonable basis for monthly certificates.
- Normal procedures applicable to quantities contracts can be followed and a similar high standard of documentation obtained.
- The lack of efficiency and adequate control generally experienced with Cost-plus type contracts are eliminated. Most of the disadvantages applicable to Cost-plus contracts are eliminated altogether.

4.3 Calculate the amount by which the Preliminaries should be adjusted, if any. Include the adjustments for all 3 categories provided under Option A. (12)

- 12% shall not be varied, thus  $R\ 4\ 907\ 397.18c \times 12\% = R\ 588\ 887.66c$  remains fixed<sup>1</sup>.

- 14% shall be varied in proportion to the Contract Value<sup>2</sup>, thus  
 $R\ 4\ 907\ 397.18c \times 14\%$   
 $= R\ 687\ 035.61c^3$

Therefore, Contract Value (less Preliminaries) divided by Contract Sum (less Preliminaries) due to the reduction in the Contract Value

$$= (R\ 51\ 567\ 058.65c \text{ minus } R\ 4\ 907\ 397.18c \text{ minus } R\ 435\ 976.18c) / (R\ 51\ 567\ 058.65c \text{ minus } R\ 4\ 907\ 397.18c)$$

$$= R\ 46\ 223\ 685.29c / R\ 46\ 659\ 661.47c$$

Thus 99.06%<sup>4</sup> (Contract Value variation in proportion to Contract Sum)

Therefore, the adjusted Preliminaries Amount in proportion to the Contract Value =  $R\ 687\ 035.61c \times 99.06\%$

$$= R\ 680\ 577.47c^5$$

- 74% will be varied in proportion to the Construction period<sup>6</sup>, thus

$$R\ 4\ 907\ 397.18c \times 74\%$$

$$= R\ 3\ 631\ 473.91c^7$$

The initial construction period was 145 working days. Therefore the amount of preliminaries per day =  $R\ 3\ 631\ 473.91c / 145 \text{ working days}^8 = R\ 25\ 044.65c$  per day<sup>9</sup>.

$$\text{Add 24 additional Working days} = R\ 25\ 044.65c \times 24 = R\ 601\ 071.60c^{10}$$

$$\text{Adjusted Preliminaries in proportion to the Construction Period} = R\ 3\ 631\ 473.91c \text{ plus } R\ 601\ 071.60c^{11}$$

$$= R\ 4\ 232\ 545.51c^{12}$$

## 5. QUESTION 5

(20 MARKS)

### Types of Contracts

(Extract from Study Aid attached for reference purposes)

On a project for a new Motor Show Room, the Employer appoints you as the Architect, Principal Consultant and as the Principal Agent, together with a Structural and a Mechanical Engineer, but she is not convinced by your request to have a QS appointed as well, as she does not see the need, since you are "in charge".

Your client insists that she has no need for Bills of Quantities and that you must obtain tenders exclusively from the plans, specifications and schedules.

- a. Advise your client on the advantages of having a Contract With Bills of Quantities, as opposed to a Contract Without Quantities (Lump Sum contract), by giving 5 advantages and 5 disadvantages of each type of contract.

Note to Markers: Use the advantages and disadvantages as set out under Section 3.411 (2.1 and 2.2) in the SAIA PPE Study Aid.

Award 1 mark for every correct advantage and every correct disadvantage, however, only 4 advantages of the CWOQ are listed, so award 2 marks for any 1 correct advantage given.