



- Candidates are required to answer **ALL** the questions.
- Questions must be answered in **SEQUENCE**. Ensure that your answers are clearly **NUMBERED**.
- This is a **CLOSED BOOK** paper. No notes, supplementary documents or online referencing is permitted.
- All answers must be **in your OWN words** where appropriate.
- Candidates must take note of the mark allocation of each question in order to provide enough information in their answer.
- Where answers are duplicated between candidates, plagiarised, or copied, **ZERO** marks will be granted.
- Take note that duplicated, plagiarised and/or copied answers may be subject to further investigation, penalties and/or disciplinary action.
- Total marks for paper one – **150 marks**
- Pass mark – a minimum of **50%** in each of the two papers.
- Time allocation – **3 hours**

QUESTION 1 – Definitions
marks

10

1.1	What is the name of the entity that is responsible for promoting and maintaining the local standards for the construction industry? (2 marks)	(2)
	SABS (1)	
	South African Bureau (1) of Standards (1)	
1.2	In your own words, provide the definition of "Continuing Professional Development (CPD)" when used in the context of a SACAP. (2 marks)	(2)
	The process of tracking and documenting the skills, (1) knowledge and experience that you gain formally and informally as you work (1)	
	CPD Board Notice 390 of 2023	
1.3	Provide the definition of a "bill of quantities" when used in the context of a building contract. (2 marks)	(2)
	The document drawn up in accordance with the measuring system.	
	A document generally prepared by a quantity surveyor that provides project-specific measured quantities of the items identified in drawings and specifications for a built asset such as a building (2) Generally prepared as part of the tender documentation that is issued to prospective tenderers (1)	
	JBCC PBA CD	
1.4	Provide the definition of a "french drain." (2 marks)	(2)

	Mean a trench (1) filled with suitable material/stones (1) which is used for the disposal of liquid effluent from a septic tank or wastewater (1)	
	<i>SANS 10400-A:2022</i>	
1.5	Provide the definition of a “habitable room.” (2 marks)	(2)
	room used or designed, erected, adapted or intended to be used by persons for sleeping in, living in, the preparation or consumption of food or drink, the transaction of business, the rendering of professional services, the manufacture, processing or sale of goods, the performance of work, the gathering together of persons, or for recreational purposes	
	<i>SANS 10400-C:2016 Edition 6.1</i>	

QUESTION 2 – Multiple Choice

20 mark

2.1	For which of the following two reasons could the council (SACAP) cancel the registration of a registered professional?	(4)
	Select TWO (2) from the following list (2 mark each)	
	A Providing false information on your registration form	
	B Being registered at another council	
	C Failure to pay annual fees within 30 days from invoice	
	D Under review for professional misconduct	
	E Being declared insolvent for not performing your duties as an architectural professional with skill	
	<i>answer: A & E</i>	
	<i>Act 44 of 2000</i>	
2.2	True or False: The council can only launch an investigation of improper conduct if someone has lodged a complaint against an architectural professional	(2)
	Select ONE (1) from the following list (2 marks)	
	A True	
	B False	
	<i>answer: B</i>	
	<i>Act 44 of 2000 – Also if “the council has reasonable grounds to suspect that a registered person has committed an act which may render him or her guilty of improper conduct...”</i>	
2.3	Which of the following is NOT required to form part of the written agreement that all registered persons must enter into with their client before undertaking professional work according to the Code of Conduct for Registered Persons – Board Notice 7 of 2021	(2)
	Select ONE (1) from the following list (2 marks)	
	A Method of fee calculation	
	B Allocation of limitation of responsibilities	
	C Scope of services to be provided	
	D Method of payment	
	E Terms for termination of the agreement	
	<i>answer: D</i>	
	<i>Code of Conduct for Registered Persons – Board Notice 7 of 2021</i>	

2.4	Which of the following institutes are not Architecture related:		(2)
Select ONE (1) from the following list (2 marks)			
A	SAID		
B	CESA		
C	SAIAT		
D	SAIBD		
E	FACE		
<i>answer: B</i>			
2.5	According to the latest South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022, which TWO of the following statements does NOT apply to a project that consists of several repeated buildings built on the same site.		(4)
Select ONE (2) from the following list (4 marks)			
A	If the same design is repeated, the full fee will apply to the prototype building’s design		
B	The reduced fee is only applicable to the repeat buildings, not floors that repeat within the same building		
C	Where the same design is repeated on a site the fee can be reduced by 35%		
D	The fees for stages 1 to 4 will be reduced by 35% for all of the buildings		
E	Full fees apply to stages 5 and 6 on all repeat buildings		
<i>answer: C & D</i>			
<i>South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022</i>			
2.6	According to the latest South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022, what percentage fee should you be charging for architectural services provided with respect to the following instances:		
2.6.1	<u>alterations</u> to an existing building?		(2)
Select ONE (1) from the following list (2 marks)			
A	100%		
B	120%		
C	130%		
D	140%		
E	150%		
<i>answer: C</i>			
<i>South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022</i>			
2.6.2	<u>addition</u> to an existing building?		(2)
Select ONE (1) from the following list (2 marks)			
A	100%		
B	120%		
C	130%		
D	140%		
E	150%		
<i>answer: C</i>			

		<i>South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022</i>		
2.6.3		<u>restoration of a heritage building?</u>		(2)
		Select ONE (1) from the following list (2 marks)		
	A	100%		
	B	120%		
	C	130%		
	D	140%		
	E	150%		
		<i>answer: D</i>		
		<i>South African Council for the Architectural Profession (SACAP) Guideline Professional Fees – Board Notice 307 of 2022</i>		

QUESTION 3 - Case Study + Fee Calculation
marks

21

Mr and Mrs Nkosi, a young couple has bought a 400 square meter stand in the Jackalberry Lifestyle Estate. They contacted you to provide a quote for the design of their dream home. The plan to spend no more than R2,124,000.00 (excluding VAT and professional fees) on the construction of their home.		
3.1	Using the following extract for a medium complexity building from the current SACAP Guideline for Professional Fees (Board Notice 307 of 2022), calculate the project cost-based fees to provide the standard (full) scope of architectural services for this project based on the budget of R 2,124,000.00 (excluding VAT and professional fees). Present your calculation by providing the information required in the following table (mark allocations are indicated): <i>SACAP Guideline for Professional Fees SAIA Study Aid 14.2</i>	(12)

TABLE 2: Medium Complexity

MEDIUM COMPLEXITY					
Cost Bracket	Value of works		Primary Fee	Plus, secondary fee	
	From	To		Add %	On balance over
	A	B	C	D	E
1	1.00	200 000.00	12 240.00	18.91%	1.00
2	200 001.00	650 000.00	50 067.17	18.18%	200 001.00
3	650 001.00	2 000 000.00	131 870.39	13.41%	650 001.00
4	2 000 001.00	4 000 000.00	312 886.84	11.69%	2 000 001.00
5	4 000 001.00	6 500 000.00	546 673.78	11.38%	4 000 001.00
6	6 500 001.00	13 000 000.00	831 246.74	9.88%	6 500 001.00
7	13 000 001.00	40 000 000.00	1 473 440.14	9.56%	13 000 001.00
8	40 000 001.00	130 000 000.00	4 052 809.42	9.55%	40 000 001.00
9	130 000 001.00	260 000 000.00	12 645 330.47	8.94%	130 000 001.00

10	260 000 001.00	520 000 000.00	24 255 571.57	8.73%	260 000 001.00
11	520 000 001.00	1 040 000 000.00	46 946 264.55	8.51%	520 000 001.00
12	1 040 000 001.00		91 173 895.32	7.86%	1 040 000 001.00

PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES				mark
TOTAL FEES (excl. VAT)				(2)
VAT				(1)
TOTAL FEES (incl. VAT)				(2)
APPORTIONMENT OF PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES PER WORK STAGE				
STAGE	FEE (excl. VAT)	mark	FEE (incl. VAT)	mark
1.		(0.5)		(0.5)
2.		(0.5)		(0.5)
3.		(0.5)		(0.5)
4.1.		(0.5)		(0.5)
4.2.		(0.5)		(0.5)
5.		(0.5)		(0.5)
6.		(0.5)		(0.5)

ANSWERS (12 marks total)

4	2 000 001.00	4 000 000.00	312 886.84	11.69%	2 000 001.00
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PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES				mark
TOTAL FEES (excl. VAT)			R 327,382.32	(2)
VAT at 15%			R 49,107.35	(1)
TOTAL FEES (incl. VAT)			R 376,489.67	(2)
APPORTIONMENT OF PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES PER WORK STAGE				
STAGE	FEE (excl. VAT)	mark	FEE (incl. 15% VAT)	mark
1.	R6 547,65	(0.5)	R7 529,79	(0.5)
2.	R49 107,35	(0.5)	R56 473,45	(0.5)
3.	R65 476,46	(0.5)	R75 297,93	(0.5)
4.1.	R32 738,23	(0.5)	R37 648,97	(0.5)
4.2.	R65 476,46	(0.5)	R75 297,93	(0.5)
5.	R98 214,70	(0.5)	R112 946,90	(0.5)
6.	R9 821,47	(0.5)	R11 294,69	(0.5)

After explaining to Mr Nkosi that your fees are calculated based on the current SACAP Guideline for Professional Fees (Board Notice 307 of 2022). He obtained the fee guidelines from the SACAP website to

familiarise himself with the document. He asks why the fees are calculated based on the “Medium Complexity Projects” and not “Low Complexity Project”		
3.2	In your own words explain to Mr Nkosi why the calculation is done based on the Medium and not Low complexity fee scale as per the following complexity factors Identification of work for the Architectural Profession: - Board Notice 27 of 2021 (3 marks each – 9 marks total)	
3.2.1	Structure Single storey structure – conventional structures based on standard codes and ranging from simple to more complex forms. Multiple storey structures <i>Identification of work for the Architectural Profession: - Board Notice 27 of 2021</i>	(3)
3.2.2	Urban context Urban context relates to the incorporation of social, economic, and spatial design informants and which ensure that the building adequately respond to and enriches their urban contexts. This forms the basis for the developing the design brief in collaboration with other specialist consultants including, inter alia, urban designers – town planners – heritage and environmental consultants. <i>Identification of work for the Architectural Profession: - Board Notice 27 of 2021</i>	(3)
3.2.3	Building services Energy efficiency Bulk infrastructure <i>Identification of work for the Architectural Profession: - Board Notice 27 of 2021</i>	(3)

QUESTION 4 - Case Study + Fee Calculation

15 marks

Mr Mufasa Jones has approached you to take over the architectural professional services on his Lion’s Pride Hotel. Another Architecture firm, Wall-E Designs were appointed for stages 1 – 3, but do not have the capacity to complete the project. The original budget for the project was R100,350,000.00 (excluding VAT and professional fees) for the construction of his hotel, it has however increased during the design development stage to R125,550,000.00 (excluding VAT and professional fees)

4.1	Based on the fees calculated below, indicated what your fee would be for the remaining stages 4.1 – 6. Using the following extract for a high complexity building from the current SACAP Guideline for Professional Fees (Board Notice 307 of 2022), calculate the project cost-based fees to provide architectural services for stages 4 -6 for this project based on the new budget of R 125,550,000.00 (<i>excluding VAT and professional fees</i>). Note that you will be taking over as the new architectural professional Present your calculation by providing the information required in the following table (<i>mark allocations are indicated</i>): <i>SACAP Guideline for Professional Fees SAIA Study Aid 14.2</i>	(10)
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8	40 000 001.00	130 000 000.00	4 715 284,00	11,12%	40 000 001.00
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PROJECT COST-BASED FEES CALCULATED BY WALL-E DESIGNS FOR ARCHITECTURAL SERVICES BUDGET R100,350,000.00		
<i>TOTAL FEES (excl. VAT)</i>	R11,426,203.89	
<i>VAT</i>	R1,713,930.58	
<i>TOTAL FEES (incl. VAT)</i>	R13,140,134.47	
APPORTIONMENT OF PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES PER WORK STAGE		
STAGE	FEE (excl. VAT)	FEE (incl. VAT)
1	R228 524,08	R262 802,69
2	R1 713 930,58	R1 971 020,17
3	R2 285 240,78	R2 628 026,89
4.1	R1 142 620,39	R1 314 013,45
4.2.	R2 285 240,78	R2 628 026,89
5.	R3 427 861,17	R3 942 040,34
6.	R342 786,12	R394 204,03

TABLE 3: High Complexity

HIGH COMPLEXITY					
Cost Bracket	Value of works		Primary Fee	Plus, secondary fee	
	From	To		Add %	On balance over
	A	B	C	D	E
1	1.00	200 000.00	14 249,82	22,02%	1.00
2	200 001.00	650 000.00	58 288,24	21,17%	200 001.00
3	650 001.00	2 000 000.00	153 523,63	15,61%	650 001.00
4	2 000 001.00	4 000 000.00	364 263,10	13,61%	2 000 001.00
5	4 000 001.00	6 500 000.00	636 438,07	13,25%	4 000 001.00
6	6 500 001.00	13 000 000.00	967 738,13	11,51%	6 500 001.00
7	13 000 001.00	40 000 000.00	1 715 380,21	11,12%	13 000 001.00
8	40 000 001.00	130 000 000.00	4 715 284,00	11,12%	40 000 001.00
9	130 000 001.00	260 000 000.00	14 721 703,95	10,39%	130 000 001.00
10	260 000 001.00	520 000 000.00	28 238 356,02	10,16%	260 000 001.00
11	520 000 001.00	1 040 000 000.00	54 654 882,62	9,90%	520 000 001.00
12	1 040 000 001.00		106 144 722,59	9,16%	1 040 000 001.00

PROJECT COST-BASED FEES FOR YOUR ARCHITECTURAL SERVICE BUDGET: R125,550,000.00		mark
<i>TOTAL PROJECT FEES (excl. VAT)</i>		(1)
<i>YOUR TOTAL FEES</i>		(2)

VAT			(1)	
TOTAL FEES (incl. VAT)			(1)	
APPORTIONMENT OF PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES PER WORK STAGE				
STAGE	FEE (excl. VAT)	mark	FEE (incl. VAT)	mark
4.1.		(1)		(1)
4.2.		(0.5)		(0.5)
5.		(0.5)		(0.5)
6.		(0.5)		(0.5)

PROJECT COST-BASED FEES FOR YOUR ARCHITECTURAL SERVICE BUDGET: R125,550,000.00			mark	
TOTAL PROJECT FEES (excl. VAT)	R 14,228,443.89		(1)	
YOUR TOTAL FEES	R9,319,630.75		(2)	
VAT	R 1,397,944.61		(1)	
TOTAL FEES (incl. VAT)	R 10,717,575.36		(1)	
APPORTIONMENT OF PROJECT COST-BASED FEES FOR ARCHITECTURAL SERVICES PER WORK STAGE				
STAGE	FEE (excl. VAT)	mark	FEE (incl. VAT)	mark
4.1.	R1 778 555,49	(1)	R2 045 338,81	(1)
4.2.	R2 845 688,78	(0.5)	R3 272 542,09	(0.5)
5.	R4 268 533,17	(0.5)	R4 908 813,14	(0.5)
6.	R1 778 555,49	(0.5)	R2 045 338,81	(0.5)

Note +25% for stage 4.1 for taking over work from another architect.

As the budget for the Lion's Pride Hotel has increased from R100,350,000.00 to R125,550,000.00 the architectural professional fees will be adjusted based on the new budget as per the SACAP Guideline for Professional Fees (Board Notice 307 of 2022)		
4.2.1	In your own words explain to Mr Jones why the fees will be adjusted to align with the new budget.	(3)
	Own word explanation	
	<i>SACAP Guideline for Professional Fees (Board Notice 307 of 2022)</i>	
4.2.2	Which architectural professional or firm will be eligible to receive the additional fees that are due for stages 1-3 based on the new budget?	(2)
	Wall-E Designs (1), as they were the ones that worked on stages 1-3 (1)	

QUESTION 5 - Case Study

32 marks

You were appointed by Mrs Sarabi Sinclair to design a twelve-bedroom lodge in a private game reserve just outside the Kruger National Park.

<p>You have completed stages 1 to 4a and have set a meeting with Mrs Sinclair to get her signature on the relevant council submission drawings and documents. During the meeting, the client claims that they did not sign off on the design development drawings, and that she still wanted to make changes to the design.</p>		
5.1	<p>Mrs Sinclair threatens to lay a complaint against you for continuing with council submission drawings without her approval. Based on the SACAP Code of Professional Conduct – Board Notice 7 of 2021, do you believe she has a valid claim? (3 marks)</p> <p>“Shall ensure that at the completion of each milestone the client signs off where the scope of work involves more than one stage”</p> <p><i>SACAP The Code of Professional Conduct – Board Notice 7 of 2021</i></p>	(3)
5.2	<p>In your own words describe what systems you would put in place to ensure that this kind of misunderstanding/conflict does not occur in the future? (2 marks per system – 4 marks total)</p> <ul style="list-style-type: none"> • Ensure that client sign document register to prove that they received the drawings. • Keep electronic records of communication of client approvals and comments. • Have clients physically sign off on the drawings in each stage. 	(4)
5.3	<p>If Mrs Sinclair did sign off on the previous stages and decide to make changes to the design after Stage 3 has been completed and finalized, how would you propose charging for changes to the concept design, Stage 2? (2 marks)</p> <ul style="list-style-type: none"> • Hourly rates • Charge for the relevant stages again 	(2)
<p>Once you have resolved the issues raised by Mrs Sinclair and updated the design as per her request, you go ahead and finalize the plans for submission. You submit all the relevant drawings and documentation to the local authority.</p>		
<p>The local authority takes eight weeks before they give you any feedback. Part of their feedback indicates that further Environmental studies will be required before they can sign off on the proposed design. You are in the process of contacting potential environmental specialists to assist with these studies when Mrs Sinclair calls you. She is upset with the fact that her plans have not yet been approved</p>		
5.4	<p>Mrs Sinclair once again threatens to lay a complaint against you at SACAP for not preforming you work within a reasonable time. According to the SACAP Code of Professional Conduct – Board Notice 7 of 2021, what is your responsibility as the appointed professional once it becomes clear that there are issues that may affect the project. (3 marks)</p> <p>“Shall keep the client informed IN WRITING about the progress on work undertaken on their behalf within reasonable time and of any issue which may significantly affect its quality or cost, and any other considerations which may substantially affect the project”</p> <p><i>SACAP The Code of Professional Conduct – Board Notice 7 of 2021</i></p>	(3)
5.5	<p>Who would be responsible for the appointment of an environmental specialist in this instance? (2 marks)</p> <p>The client</p>	(2)

5.6	Mrs Sinclair indicates that she was under the impression that once the plans are submitted it is a mere formality before she can start construction. In your own words explain the following to her:	
5.6.1	The local authority indicated that other departments need to sign off on the design, e.g., water and sanitation or fire. (3 marks) Own word explanation	(3)
5.6.2	There are some comments and corrections listed by the local authority that needs to be attended to by the architectural professional before the council will approve the plans (3 marks) Own word explanation: The architectural professional should make all the necessary corrections on the building plans and resubmit the building plan application for approval	(3)
5.6.3	Can an Architectural Professional guarantee that a client’s building plans will be approved by the local authority? (3 marks) No, an architectural professional cannot guarantee approval of the building plans by the local authority. An architectural professional will prepare building plans with due skill and competence and ensure that building plans comply with building regulations and standards. However, he or she cannot guarantee that the local authority will approve the building plans SACAP FAQ SACAP The Code of Professional Conduct – Board Notice 7 of 2021	(3)
5.7	Once the plans are approved by the local authority, you prepare the relevant drawings and documents to start the tender process. Mrs Sinclair is unhappy with the fact that her personal information is reflected on the title block of the drawings included in the tender documents, based on the Code of Conduct and POPI Act. What system would you put in place to ensure that the POPI Act is adhered to. Extract: “An architectural professional shall not disclose confidential information obtained from clients except with written permission and in compliance with the Protection of Personal Information Act” <ul style="list-style-type: none"> - Set up a form/document to be signed off by client - Check if client requires extra sensitivity to distribution of their personal information - Informs them of when and where their information will be required (e.g., council submission documents, drawings, forms as per council requirements) - Get the client’s permission in writing - Ensure that the client’s information is only reflected on relevant documents as agreed SACAP The Code of Professional Conduct – Board Notice 7 of 2021 POPI Act	(3)
5.8	As part of the tender process, you advise the client that a Health and Safety officer should form part of the professional team during construction. 5.8.1 Provide two ways in which a health and safety officer could be appointed on a construction project (4 marks) 1. Client may appoint a Construction Health and Safety Officer directly to compliment the management team. 2. Contractors may appoint a Construction Health and Safety Officer directly to monitor and assist on-site health and safety performance and	(4)

	<p>compliance in accordance with the Occupation Health and Safety Act and Regulations.</p> <p>SACPCMP Registration Rules for Construction Health and Safety Officers in terms of Section 18 (1) (c) of the Project and Construction Management Professions Act, 2000</p>	
5.8.2	<p>Even though you have explained to Mrs Sinclair the importance of appointing a Construction Health and Safety Officer, she refuses comply, as she feels it is a waste of money. According to the SACAP Code of Professional Conduct – Board Notice 7 of 2021, what is your responsibility as architectural professional if a client or employer refuses to listen to your professional advice?</p> <p>“When providing professional advice to a client or employer, and such advice is not accepted, <u>inform them in writing</u> (2) of any consequences which may be detrimental to the health, safety or interest of the public”</p> <p>SACAP Code of Professional Conduct – Board Notice 7 of 2021</p>	(2)

QUESTION 6 - Case Study

14 marks

<p>A high school student, Ed Cummings is planning to study to become a Professional Architectural Draughtsperson once he finishes high school. He has approached you to discuss how he should go about obtaining the relevant qualifications.</p>		
6.1	<p>Ed is worried that he might not be able to qualify for a bursary to assist in the payment of his tuition fees. He asks that you explain what the process would be if he was to register as an apprentice once he finishes high school. (3 marks)</p> <ol style="list-style-type: none"> 1) Apprentice must perform architectural work in an architectural practice, under the direction, control, and supervision of a registered professional. 2) The period of apprenticeship shall commence only after a contract is in place between the apprentice and mentor. 3) Persons registered as apprentices shall submit monthly training reports to show how they have gained experience in the 10 competencies set out by SACAP, and the progress they have made. 4) The duration of apprenticeship shall be for a period of 3 years. 5) The apprentice who has met all the requirements, shall be required to write, and pass paper 1 of the PPE, before upgrading to a Prof Arch draughtsperson <p>2022_SACAP Presentation – apprenticeship programme</p>	(3)
6.2	<p>How many months of practical training and monthly training records is required from a Candidate Architectural Draughtsperson for them to register to write the SACAP Professional Practice Exam? (2 marks)</p> <ul style="list-style-type: none"> • 36 Months from date of registration <p>2022_SACAP Presentation – apprenticeship programme</p>	(2)
6.3	<p>If you are struggling to get a mentor to sign off on your monthly training records, what alternative is SACAP offering to the standard 2-year monthly training record method in order to qualify to write the Professional practice exams? (2 marks)</p>	(2)

	<ul style="list-style-type: none"> • Waiving of MTR 	
	<i>Application Process for the waiving of candidate MTRs</i>	
6.4	Ed asks what category of registration you will be and what your title will be according to the Architectural Profession Act No. 44 of 2000 and SACAP Code of Conduct for Registered Persons Board Notice 7 of 2021, once you pass your PPE exams and upgrade your registration.	(3)
6.4.1	Category of Professional Registration (2 marks) Any of the following could be taken as correct: Professional Architectural Draughtsperson Professional Architectural Technologist Professional Senior Architectural Technologist Professional Architect	
6.4.1	Title (1 mark) Any of the following could be taken as correct: PrArchDraught PrArchT PrSArchT PrArch	
	Categories: Architectural Profession Act No.44 of 2000 Titles: Code of Conduct for Registered Persons Board Notice 7 of 2021	
6.5	Explain to Ed what the Canberra Accord is and how it could potentially open doors for him in the future. (2 marks explanation, 2 marks own words explanation of benefit) The Canberra Accord is a document by accreditation/validation agencies in architectural education. It is intended to facilitate the portability of education credentials between countries whose accreditation/validation agencies signed the Accord. It does not address matters related to professional registration or licensure. (2) Own words benefit to students of the Canberra Accord. (2) SACAP Accreditation Policy – Board Notice 400 of 2023	(4)

QUESTION 7 – Diagrams and Drawings

21 marks

A high school student, Ed Cummings is planning to study to become a Professional Architectural Draughtsperson once he finishes high school. He has approached you to explain some architectural terms, drawings, and concepts to him.		
Ed asks that you explain the difference between the following drawings and what each of their purposes are when preparing drawings for local authority submissions (for 2 marks), also provide 3 items that must always be indicated on each of the relevant drawings (3 marks):		
7.1	7.1.1	Site development plan (SDP) (2 marks explanation, 3 marks check list) Own word answers SDP is a legislative requirement and is legally binding upon the owner and his/her successors in title. In essence the purpose of an SDP is to determine at an early
		(5)

	<p>stage (pre-development) whether a proposed development complies with relevant legislative requirements and control measures.</p> <p>Aspects such as built form, design and aesthetic are considered, and the council also has an obligation to ensure that environmentally sensitive features are protected.</p> <p>Furthermore, the efficiency and effectiveness of the overall layout, with regard to access, connection to engineering services, overlooking, privacy, etc. is considered. Should amendments to the proposed development be required it can be affected prior to the drafting of costly building plans and thus save the developer time and money.</p> <ol style="list-style-type: none"> I. Property description II. Zoning III. Development control measures IV. Parking requirements and provisions V. Development layout, building details, engineering services, connection points & servitudes, physical features, landscaping, and adjoining property details. VI. Scale, north point, locality map 	
7.1.2	<p>Site plan (2 marks explanation, 3 marks check list)</p> <p>Own word answers</p> <p>A site plan is a plan that indicates the size and features of a site and locates the positions of buildings in relation to them. It also contains other information required by the authority concerned, e.g., building lines, etc.</p> <ol style="list-style-type: none"> I. Stand boundaries, dimensions. II. Stand number and adjacent stand numbers. III. Servitudes across the site, set-backs, road widening servitudes, etc. IV. Services (if any) across the site, e.g., power lines, sewer, etc. V. Service connections and invert depths, positioned. VI. Road names and widths VII. Vehicle access VIII. Levels (natural and finished) IX. Datum, references, described. X. Building lines, with distances from fixed reference points XI. Building position on site with adequate dimensions for setting out XII. Building entrances, positioned XIII. Sewerage drainage and disposal XIV. Stormwater drainage and disposal XV. All site works, embankments, retaining walls, boundary walls, gates, fences, roads etc. XVI. Unique and Natural features of the site which are to be retained, e.g., existing trees should be shown and suitably annotated. XVII. North point & scale 	(5)
7.1.3	<p>Roof plan (2 marks explanation, 3 marks check list)</p> <p>Own word answers:</p> <ol style="list-style-type: none"> I. Top-down look of the building (1) II. Roof finish, and any special waterproofing of or insulation under the roof (1) III. Roof angles and falls (1) IV. Show rainwater gutters, down-pipes, vent-pipes etc., projections through roof, box gutters, concealed gutters, valley gutters, rainwater heads. V. Centre lines of roof trusses 	(5)

7.2	Ed asks that you explain what “Coverage” and “Floor Area Ratio” on the area schedule of council submission drawings refer to.	
7.2.1	Coverage (3 marks) Means the percentage area of a property including any servitude area covered by the roofed area of all buildings as seen vertically from above but does not include a structure or building that has no roof. Note different local authorities include different areas (e.g., exclude garage or include carport)	(3)
7.2.2	Floor Area Ratio (FAR) (3 marks) Means the ratio of the Gross Floor Area of a building to the total area of the property, including any servitudes, on which such building is erected or is to be erected, i.e. FAR = Gross Floor Area divided by Area of Property Note different local authorities have different Gross Floor Area calculation methods (e.g., include internal wall or exclude) Tshwane town-planning scheme, 2008	(3)

QUESTION 8 – Diagrams and Drawings

17 marks

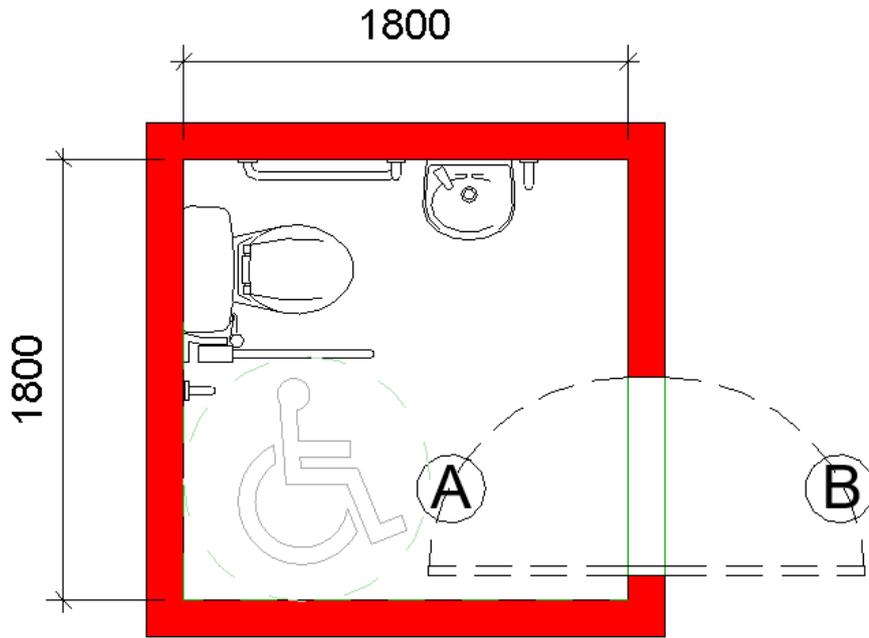
Pick the correct answer pertaining to each of the diagrams or sketches below:

8.1	<p style="text-align: center;">A + B + C = Travel Distance</p>	(2)
What is the total maximum travel distance a person is allowed to have to run to reach an exit in case of an emergency in a three-storey building?		
Select ONE (1) from the following list (2 marks)		
A	30m	
B	45m	

C	50m
D	75m
E	100m
<i>answer: B</i>	
<i>SANS 1400-T:2020 Edition 4</i>	

8.2

(2)



In which direction should the door open at a toilet facility for persons with disabilities?

Select ONE (1) from the following list (2 marks)

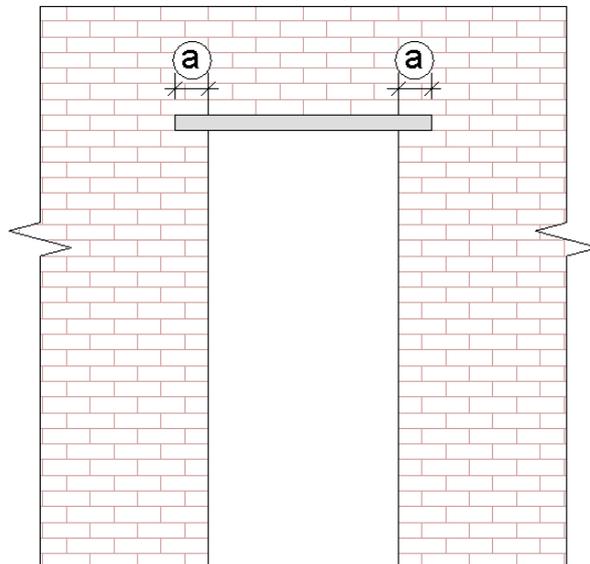
A	Inward
B	Outward

answer: B

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8.3

(2)



Select the minimum overhang (a) for a pre-stressed lintel built into a masonry wall from the measurements below:

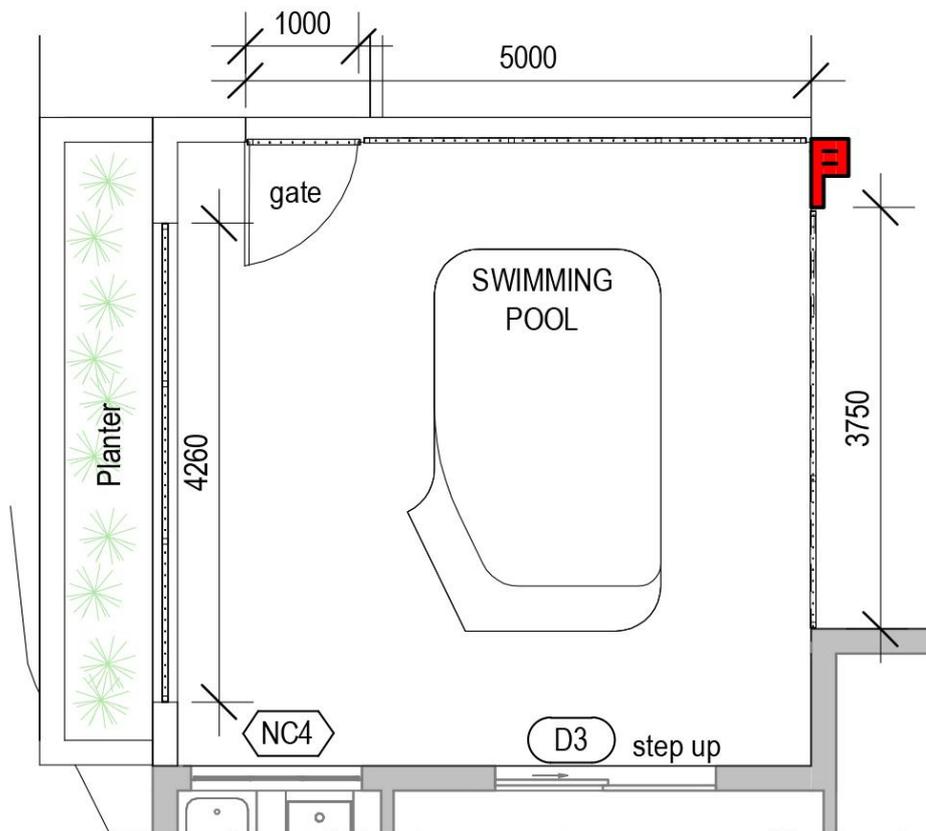
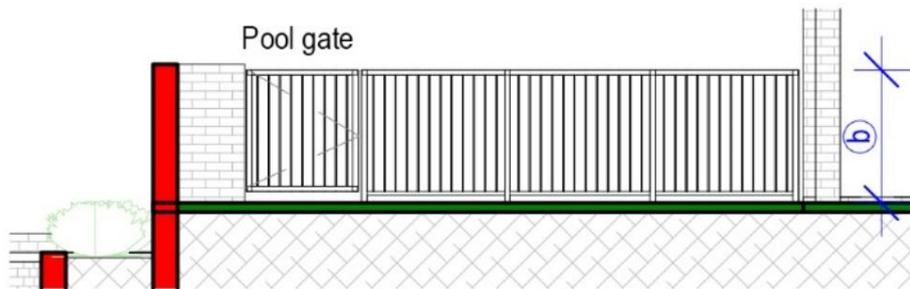
Select ONE (1) from the following list (2 marks)

A	150mm
B	250mm
C	150mm
D	110mm
E	100mm

answer: A

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8.4



8.4.1

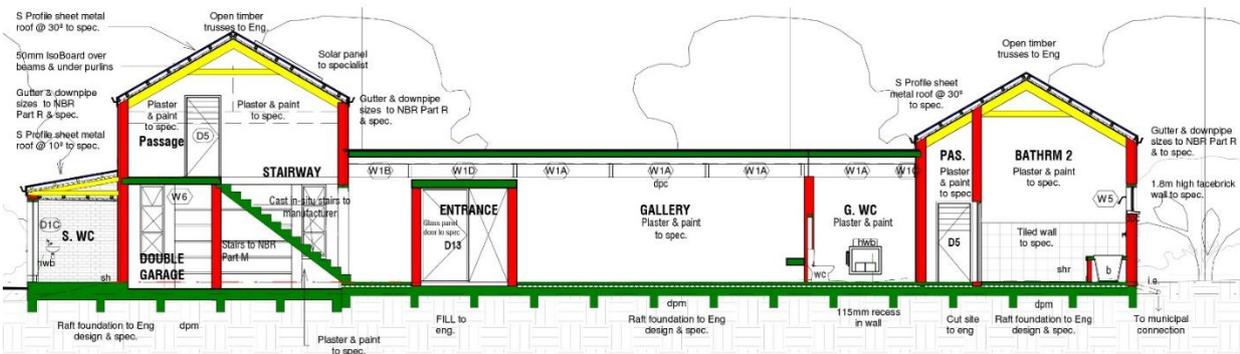
What is the minimum height (b) for a swimming pool fence?

(2)

Select ONE (1) from the following list (2 marks)

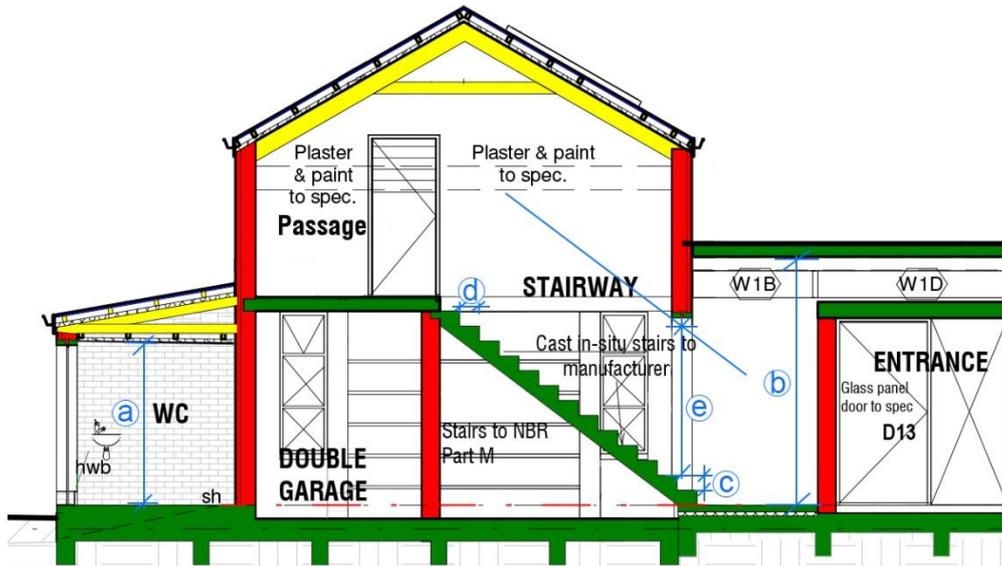
A	900 mm
B	1000 mm
C	1100 mm
D	1200 mm

	E	1250 mm	
		<i>answer: D</i>	
		<i>SANS 10400-D: 2022 Edition 4.1</i>	
8.4.2		What is wrong with the swimming pool gate? (2 marks) <i>"The design of the gate shall be such, that after its installation, it shall not be possible to open the gate towards the swimming pool"</i> <i>SANS 10400-D: 2022 Edition 4.1</i>	(2)
8.4.3		Provide the swimming pool gate note required by council Self-closing locking gate as per SANS 1390 <i>SANS 10400-D: 2022 Edition 4.1</i>	(2)



8.5

(5)



Provide answers with regards to the missing measurements as highlighted in blue above:

8.5.1	a	What is the minimum ceiling height for a residential bathroom? 2,1m (above any area where a person would normally be standing)
8.5.2	b	What is the minimum ceiling height for a residential living room? 2.4m
8.5.3	c	What is the maximum riser height of stairs?

			Max 200mm	
8.5.4	d	What is the minimum tread depth of stairs?	Min 250mm	
8.5.5	e	What is the minimum head room above a staircase?	2,1m	
<i>SANS 10400-C:2016 Edition 3.1</i>				