



GHANA INSTITUTE OF ARCHITECTS

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25th August, 2021.

The Principal Asst. Registrar
Architects Registration Council
3 Ninth Road
Accra

Dear Madam,

NOTICE ON PPE 2021 FINAL REPORT

Please find attached the final 2021 Professional Practice Examinations/Training (PPE/T) report for onward perusal by the ARC Educations & Examinations Committee and the ARC Board.

Awaiting your timely response.

Thank you.

Yours sincerely,

**DR. DANIEL DUAH, AGIA
(CHIEF EXAMINER)**





REPORT ON 2021 PROFESSIONAL PRACTICE EXAMINATIONS

AUGUST 25, 2021

EXAMINERS: Arc. Dr. Daniel Y. A. Duah (Chief Examiner); Arc. Dr. Alexander Boakye Marful (Secretary), Arc. Sylvia Larbi, Arc. Richard Nii Dadey, Arc. Tony Asare, Arc. Daniel Gyarteng, Arc. William Nii Teiko Evans-Anfom, Arc. Foster Osae-Akonnor



TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Structure of Examinations.....	1
1.2	Participation in the Examinations	2
1.3	Categories of Re-sit Candidates	2
2.0	EXAMINATION MODALITIES	3
2.1	Examination Pass Mark.....	3
2.2	Examination Assessment	3
2.3	Moderation of Questions.....	3
2.4	Procedure Adopted for Marking	3
2.5	Auditing of the Examination	4
3.0	RESULTS OF THE EXAMINATION	5
3.1	Moderation/Scaling of the Examination Marks	5
3.2	Performance of Candidates	5
3.3	Performance of Candidates per Subject Areas	6
3.4	Unsuccessful Candidates	8
3.5	Candidates Recommended to Re-sit	8
3.6	Performance of Re-sit Candidates.....	8
3.7	Comparison of First-time and Re-sit Candidates	9
3.8	Trend Analysis of Average Performance for Examinations.....	10
3.9	Trend Analysis of Performance for Written Examinations and Interviews	10
3.10	Trend Analysis of Performance of Examinations from 2009 to 2021.....	11
4.0	RECOMMENDATIONS.....	13
5.0	APPRECIATION	15
6.0	EXAMINERS' SIGNATURES	15



1.0 INTRODUCTION

Following the restoration of the mandate of the Ghana Institute of Architects (GIA) to run Professional Practice Examinations (PPE) by the Architects Registration Council of Ghana, the Council of the GIA appointed an eight member Examiners Team to oversee the PPE over the next five years. The following are the team of examiners:

1. Arc. Dr. Daniel Y. A. Duah	Chief Examiner
2. Arc. Dr. Ing. Alexander Boakye Marful	Secretary
3. Arc. Foster Osae-Akonnor	Member
4. Arc. Richard Nii Dadey	Member
5. Arc. William Nii Teiko Evans-Anfom	Member
6. Arc. Sylvia Larbi	Member
7. Arc. Daniel Gyarteng	Member
8. Arc. Tony Asare	Member

The process for the 2021 Professional Practice Examination of the Ghana Institute of Architects started with the submission of case studies deadline of 29th January 2021. This was followed by pre-written examination interviews in February 2021 to prequalify the candidates. The qualifying candidates then attended two (2) PPE Workshops in March and April 2021 after which the written examinations for Papers One (1) and Two (2) were completed on 24th and 25th June 2021. Marking of the written examination took place in July 2021 and the post-written examination interviews took place in early August 2021. Series of internal and external processes were followed including submission of the Chief Examiners Report to the GIA Education and Examinations Committee, the GIA Council, ARC Education and Examinations Committee, and the ARC Board for review and approval.

1.1 Structure of Examinations

Following a review of the PPE over the past years, the Education Committee of the Ghana Institute of Architects proposed a couple of changes among others to the structure of the examinations. These were deliberated upon by the Council of the GIA and were adopted for implementation in subsequent examinations. The following are the specific changes that were adopted:

- Following the observation that some of the questions were not practical enough and involved a lot of responses that encouraged memorization rather than practical application, it was agreed that as much as possible, subsequent questions are more practical based.
- In addition, there were concerns about Candidates who were freelancing and not attached to any practice or Senior Architects and hence do not obtain the relevant knowledge yet apply to take the examinations. They typically pick projects they have not worked on and write and submit a synopsis on them. Again, there are other Candidates who have challenges with written examinations and may sometimes not perform as well if they were being interviewed. On the basis of the above, it was agreed that the examinations be done in three distinct parts as shown below:

- **Part One**

Pre-Written Examination Interview

This was to gauge the preparedness of Candidates following a review of their synopsis, ensure that they actually worked on the projects, and give them an overview of the examinations.

- **Part Two**

Two Part Written Examination

This tests the practical knowledge of the Candidates first at the Pre-Contract Stage (Paper One) and then at the Post-Contract Stage (Paper Two).

- **Part Three**

Post-Written Examination Interview

This affords the opportunity for the Examiners to give another opportunity for Candidates to answer questions they did not do well and to gauge their preparedness to practice professionally when licensed.

1.2 Participation in the Examinations

With this background and systems in place, the three-part 2021 Professional Practice Examination (PPE) conducted by the Ghana Institute of Architects was held as follows:

- Part One (Pre-Written Examination Interview) 22nd to 26th February 2021
- Part Two (Two Part Written Examination) 24th and 25th June 2021
- Part Three (Post-Written Examination Interview) 3rd to 5th August 2021

For the two-part written examination, Paper 1 dealt with Pre-Contract Practice while Paper 2 focused on Post Contract Management. For each Paper, candidates were required to answer four (4) out of six (6) questions within the exam time limit of two (2) hours each. For the interviews, each person was assigned twenty minutes after which the Examiners spent the next ten minutes discussing the Candidate's performance and each assigning their respective marks.

A total of fifty-one (51) candidates registered for the examinations. Thirteen (13) candidates did not meet the required marks needed to progress after the pre-examination interviews. Out of the thirty-eight (38) remaining candidates, three (3) exempted themselves voluntarily from the process and 35 candidates continued with the rest of the examinations. Appendix 1 shows the summary status of all registered candidates who passed the pre-written examination interviews.

1.3 Categories of Re-sit Candidates

Out of the twenty (20) re-sit candidates who registered to take the examinations, fifteen (15) candidates were able to meet the required marks to progress to the next stage after the pre-examinations interview. Two (2) re-sit candidates voluntarily exempted themselves from the process leaving thirteen (13) re-sit candidates who continued with the rest of the examinations. Specifically, eight (8) re-sit candidates sat for Papers 1 and 2 and five (5) sat for Paper 1 only.

2.0 EXAMINATION MODALITIES

This section explains the modalities adopted for the examinations including the pass mark, the assessment, moderation of questions for the examinations, and the procedure adopted for the marking.

2.1 Examination Pass Mark

By the rules and objectives of the professional examination, the stipulated pass mark for each Paper is 60%, and the weighted average pass mark of both Papers 1 and 2 is 60%. In practice, however, the weighted average pass mark of both papers is what has been used over the years and is what was adopted for this year's examination.

2.2 Examination Assessment

All candidates underwent the three assessment areas of the examination which was introduced this year.

- i. **Pre-Written Examination Interviews:** This first phase of the examination was used to assess the candidate's evidence of participation on projects submitted as Synopsis, Logbooks and Case Studies. This was assigned 20% of the total marks for each candidate. However, candidates who were found out to have stated untruths in their Synopsis, Logbooks and Case Studies were not allowed to progress to the next phase.
- ii. **Two-Part Written Examination:** This formed the second phase where candidates sat for the written Papers 1 and 2 of the examinations. This was assigned 60% of the total marks for each candidate.
- iii. **Post-Examination Interview (Professional Interview):** This final phase was used to assess candidates based on practice problems and to give candidates an opportunity to defend or clarify their positions on some of their written answers. This was assigned 20% of the total marks for the candidate.

2.3 Moderation of Questions

All Resource Persons were invited to submit 10 questions each on the topics they covered during the workshops. The questions were provided together with model answers and draft marking schemes. Meetings were held among the Examiners to moderate the questions, and the model answers to bring them in line with the objectives of the Professional Practice Examinations. In instances where clarity was needed, specific Resource Persons were contacted. The Examiners decided on the final questions which were further shortlisted to twelve (12) for both Papers One (1) and Two (2). To enhance the confidentiality of the examinations, the Chief Examiner was given the mandate to select the final six (6) questions for each paper.

2.4 Procedure Adopted for Marking

To ensure fairness, consistency and transparency, the Panel of Examiners discussed and agreed on the marking scheme for each question and adjusted the weighting of different sections of the question. About ten (10) scripts were randomly selected and jointly marked to establish consistency in the award

of marks. One question was marked at a time by all Examiners so that comparisons of responses and general agreement was reached. In addition, the Examiners remained in the same room, had cordial discussions and consulted each other for clarity on grey areas.

2.5 Auditing of the Examination

To enhance the accuracy of marking, auditing of the examination scripts was done internally and externally. For internal auditing, first, all Examiners who were Resource Persons were made to mark responses for the questions they set. Next, a minimum of twenty (20) marked scripts were picked randomly and audited for accuracy of marking, addition of marks or spotting of any mistake etc. In instances where the Auditor was unclear about any aspect, for example addition of marks, the Examiner who marked was approached for clarification. Next, during the collation of the marks at the post-written examination interviews, Candidates who scored very low marks had their scripts selected for further review by another auditor for auditing. In two instances, the marks obtained by the Candidates had to be increased, albeit marginally. In a specific instance where a candidate obtained zero (0) out of twenty-five (25) for a question, two other audits confirmed the original mark.

The external audit involved the selection of the highest, median, and lowest marks obtained for each of the eleven (11) questions answered by the Candidates. Thus, a total of thirty-three (33) scripts (Tables 1 and 2) were selected and given to the external auditors comprising an architect in academia, specifically, the Department of Architecture, KNUST, Kumasi and one practicing architect with experience of over twenty (20) years. Appendix 2 is the independent report of the external auditors.

Table 1: Paper One (1) Selected Scripts for External Audit

Question One (1)	Question Two (2)	Question Three (3)
211006-030	211006-032	211006-017
211006-041	211006-048	211006-031
211006-013	211006-009	211006-013
Question Four (4)	Question Five (5)	Question Six (6)
211006-004	211006-013	211006-34
211006-049	211006-039	211006-014
211006-028	211006-025	211006-009

Table 2: Paper Two (2) Selected Scripts for External Audit

Question One (1)	Question Two (2)	Question Three (3)
211006-014	211006-033	211006-025
211006-035	211006-017	211006-005
211006-033	211006-042	211006-009
Question Four (4)	Question Five (5)	Question Six (6)
211006-048	211006-014	N/A
211006-019	211006-049	N/A
211006-009	211006-002	N/A

3.0 RESULTS OF THE EXAMINATION

Appendix 3 and 4 shows the thematic areas of the written examination questions for papers 1 and 2. Appendix 5 shows the number of candidates that answered the respective questions and marks earned for the various phases of the examinations.

3.1 Moderation/Scaling of the Examination Marks

The average mark for the written examinations was 54.64% and that for the interviews was 68.85%. Clearly, the rationale for the interviews has been met since the overall average mark shot up to 60.32% and better than the 2020 overall average mark of 58.10%. The Panel of Examiners unanimously agreed to set the pass mark at 55.00% due to the following reasons:

- The change in format of the examination and the uncertainty surrounding who was to organize the examinations whether GIA or ARC (ARC actually started the process concurrently with GIA and left the Candidates with divided attention and uncertainty) affected the Candidates.
- Over the years, each written paper has had a three-hour duration. Following the Covid 19 directive that gatherings should not exceed two hours, the duration for this year's examination was set at two hours. That notwithstanding, the number of questions to be answered by each Candidate was maintained at four (4). During the interviews, majority of the Candidates complained about the inadequacy of the duration for the examinations.
- Question One (1) was inadvertently repeated for Question Six (6) in the Post Contract written examination by the Panel of Examiners. This means that candidates had to choose from five (5) instead of six (6) questions originally set out in the modalities for examinations.
- The Panel of Examiners found out that some of the new and old Resource Persons were not completely aligned with the demands and answers for their respective questions.
- It also emerged that the whole idea of Design and Build processes is not familiar to all the Principals and Candidates. There is the need to review this with the Resource Persons.
- Initially subjects such as the Architects Act were not examinable. There is the need to sensitize the Candidates and Supervising Principals a bit more.

Thus, the Panel of Examiners recommends the consideration of ten (10) candidates, who scored between 54.57% and 59.99% for certification. The position of the Panel of Examiners was further buttressed by the fact that the examiners exercised some level of discretion in marking the essay answers, which would not have been necessary with multiple-choice questions.

3.2 Performance of Candidates

The moderation and scaling technique employed increased the number of successful candidates from twenty-one (21) to thirty-one (31) representing 88.57% of the candidates who wrote this year's examinations. When compared with the 61.63% and 51.79% pass rate of 2020 and 2019 respectively, this shows a marked improvement in the performance of the candidates. The number of candidates that failed the examination were four (4) representing 11.43% of the total number that wrote the examination. This represents a vast improvement when compared with the 38.37% and 48.21% failure

rate of 2020 and 2019 respectively. A trend analysis shows that progressively, the performance of the Candidates has been improving with 2021 examinations showing a marked improvement in the performance of the candidates. Based on the moderation of the results, thirty-one (31) candidates are confirmed to have passed the 2021 Professional Practice Examination of the Ghana Institute of Architects. The list of the successful candidates and their respective marks are ranked in Table 3 below.

Table 3: Successful Candidates of the 2021 GIA PPE

Index Number	No. of Attempts	Interview One (20%)	Paper 1 (100%)	Paper 2 (100%)	Avg. for Papers 1&2 (100%)	Weighted Papers 1&2 (60%)	Interview Two (20%)	Total Marks (100%)	Position
211006-022	1 st	18.00	70.50	70.50	70.50	42.30	17.57	77.87	1
211006-041	1 st	15.00	64.50	67.50	66.00	39.60	16.17	70.77	2
211006-014	1 st	13.00	61.50	69.00	65.25	39.15	17.17	69.32	3
211006-019	1 st	12.00	64.00	68.00	66.00	39.60	16.67	68.27	4
211006-037	1 st	14.00	62.50	63.00	62.75	37.65	15.92	67.57	5
211006-043	2 nd	13.00	68.00	52.00	60.00	36.00	17.67	66.67	6
211006-030	1 st	14.00	59.00	59.00	59.00	35.40	15.71	65.11	7
211006-023	1 st	15.00	50.00	62.00	56.00	33.60	16.43	65.03	8
211006-017	1 st	12.00	73.50	51.50	62.50	37.50	15.50	65.00	9
211006-004	2 nd	15.00	62.50	57.50	60.00	36.00	14.00	65.00	9
211006-006	1 st	17.00	72.50	50.00	61.25	36.75	10.57	64.32	11
211006-025	1 st	12.00	65.50	63.00	64.25	38.55	13.57	64.12	12
211006-049	1 st	12.00	58.50	64.00	61.25	36.75	14.60	63.35	13
211006-038	1 st	13.00	54.00	60.00	57.00	34.20	15.33	62.53	14
211006-046	1 st	13.00	60.00	54.00	57.00	34.20	15.00	62.20	15
211006-033	1 st	14.00	63.00	47.00	55.00	33.00	15.14	62.14	16
211006-048	1 st	15.00	62.50	52.00	57.25	34.35	12.67	62.02	17
211006-036	1 st	14.00	51.00	57.00	54.00	32.40	14.80	61.20	18
211006-008	4 th	13.00	51.50	57.50	54.50	32.70	15.14	60.84	19
211006-032	2 nd	14.00	55.50	53.00	54.25	32.55	13.86	60.41	20
211006-013	2 nd	13.00	45.50	59.00	52.25	31.35	15.67	60.02	21
211006-035	2 nd	14.00	49.00	59.00	54.00	32.40	13.43	59.83	22
211006-024	1 st	14.00	56.00	50.50	53.25	31.95	13.43	59.38	23
211006-031	1 st	14.00	54.00	49.50	51.75	31.05	14.00	59.05	24
211006-010	1 st	13.00	63.00	50.00	56.50	33.90	11.57	58.47	25
211006-034	1 st	13.00	59.50	51.00	55.25	33.15	11.71	57.86	26
211006-026	1 st	12.00	46.00	58.50	52.25	31.35	12.43	55.78	27
211006-003	2 nd	14.00	43.50	57.50	50.50	30.30	11.29	55.59	28
211006-040	1 st	12.00	53.50	50.50	52.00	31.20	11.86	55.06	29
211006-039	1 st	12.00	54.00	44.00	49.00	29.40	13.43	54.83	30
211006-005	6 th	12.00	42.00	48.00	45.00	27.00	15.57	54.57	31

An analysis of the total of fifty-one (51) candidates who registered for the examinations and the thirteen (13) candidates failed at the pre-examination interviews means that the total number of candidates who failed are seventeen (17). When you exclude the three candidates who voluntarily did not take part after the first interview, the total number of candidates who took the examination are forty eight (48). Thirty one (31) passes out of the forty eight (48) means that the overall pass rate for the 2021 examinations is 64.58% and the failing rate is 35.42%.

3.3 Performance of Candidates per Subject Areas

Table 4 shows the performance of Candidates for each subject area for Paper 1 (Pre-contract) and Paper 2 (Post-contract) aspects of the examination. The top three subject areas where students

performed best were Paper Two Question Four (P2Q4) (Project Management), P1Q3 (The Architect and the Practice), and P1Q5 (GIA Constitution, Code of Conduct, Regulations and Bye Laws) where the average marks were 68.16%, 67.96% and 62.24% respectively.

Table 4: Average Performance of Candidates Based on Subject Areas

Questions	Subject Area	Average Mark (100%)
P1 Q1	Environmental Protection Laws of Ghana	33.00
P1 Q2	The PPA Act, FIDIC and Donor Funded Contracts	59.96
P1 Q3	The Architect and the Practice	67.96
P1 Q4	Planning Laws and Regulations	50.96
P1 Q5	GIA Constitution, Code of Conduct, Regulations and Bye Laws	62.24
P1 Q6	The Architects Act 1969	33.72
P2 Q1	The PPA Act, FIDIC and Donor Funded Contracts	58.08
P2 Q2	Laws on Accessibility	53.12
P2 Q3	Health, Safety and Environment	52.72
P2 Q4	Project Management	68.16
P2 Q5	Contract Management	39.76

Figure 1 shows a graphical representation of the average performance of the Candidates based on the subject areas. The top three subject areas and bottom three subject areas are indicated by the green and red bars respectively.

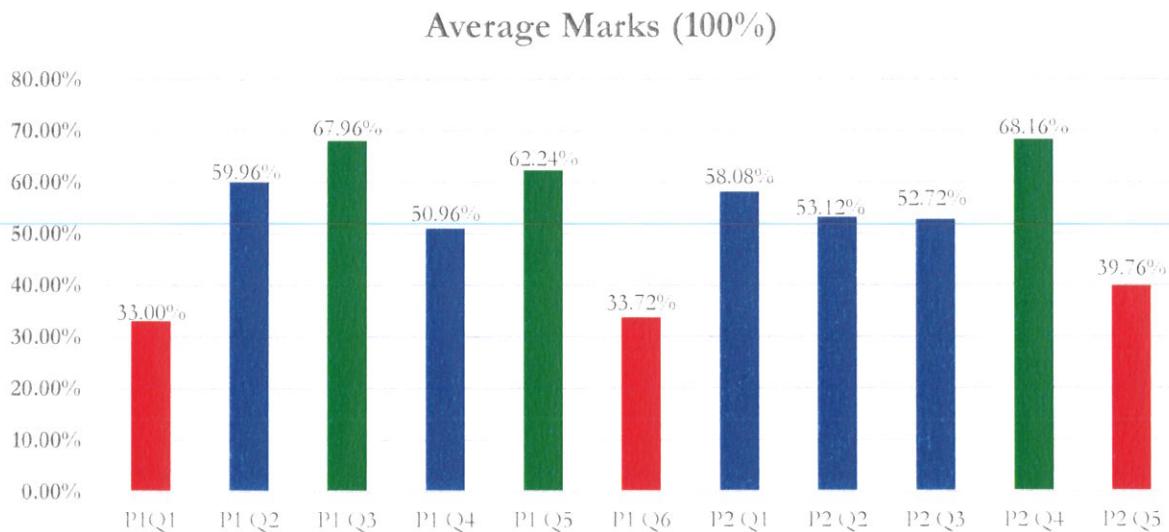


Figure 1: Average Performance of Candidates Based on Subject Areas

It shows that three subject areas where the Candidates performed very poorly with less than 40% in each of these were P2Q5 (Contract Management), P1Q6 (The Architects Act 1969) and P1Q1 (Environmental Protection Laws of Ghana) where the average marks obtained were 39.76%, 33.72% and 33.00% respectively.

3.4 Unsuccessful Candidates

Table 5 indicates the marks obtained by the four (4) candidates, representing 11.43%, who failed the 2021 Professional Practice Examination. Each of these candidates failed the two-part written examinations (Papers 1 and 2). Even though they passed the pre- and post-written examination interviews their overall performance for all aspects of the examinations was below the passing mark.

Table 5: Unsuccessful Candidates in 2021 GIA PPE

Index Number	No. of Attempts	Interview One (20%)	Paper 1 (100%)	Paper 2 (100%)	Avg. for Papers 1&2 (100%)	Weighted Papers 1&2 (60%)	Interview Two (20%)	Total Marks (100%)	Position
211006-002	2 nd	14.00	45.50	36.00	40.75	24.45	11.71	50.16	32
211006-042	2 nd	13.00	45.00	40.00	42.50	25.50	11.17	49.67	33
211006-028	2 nd	12.00	33.00	45.00	39.00	23.40	11.14	46.54	34
211006-009	1 st	12.00	39.00	35.50	37.25	22.35	11.00	45.35	35

3.5 Candidates Recommended to Re-sit

All four (4) candidates who failed the 2021 GIA PPE were unable to secure passes for any of the written examinations. Since the pre-written examination interviews are a pre-requisite for the written examinations and the post-written examination interviews are based on the written examinations, all four candidates who failed (see Table 5) are recommended to the Board of the Architects Registration Council to re-sit the entire examinations whenever they are ready.

3.6 Performance of Re-sit Candidates

Since 2018, re-sit candidates who had obtained the pass mark of 60.00% in either Paper 1 or 2 are allowed to re-sit only the failed Paper. Out of the twenty (20) re-sit candidates who registered, only twelve (12) sat for the entire 2021 GIA PPE as shown in Table 6. Eight (8) wrote both Papers 1 and 2, while the remaining four (4) wrote only Paper 1 with Candidate with index number 211006-008 and 211006-005 having made three (3) and five (5) previous attempts respectively.

Table 6: Status of Re-sit Candidates

No.	Index Number	Year(s) Written	Paper to Write	Probationer Registration Year	No. of Attempts
1	211006-032	2020	1 & 2	2020	1
2	211006-008	2018 to 2020	1	2016	3
3	211006-002	2020	1 & 2	2016	1
4	211006-049	2020	1 & 2	2018	1
5	211006-043	2020	1 & 2	2019	1
6	211006-004	2019	1 & 2	2018	1
7	211006-028	2020	1 & 2	2021	1
8	211006-042	2020	1 & 2	2021	1
9	211006-035	2020	1	2020	1
10	211006-003	2020	1	2016	1
11	211006-013	2020	1	2021	1
12	211006-005	2016 to 2020	1 & 2	2015	5

25 AUG 2021

As shown in Table 7, six (6) out of the twelve (12) re-sit candidates (50.00%) passed the examination outright with a minimum mark of 60%. When compared with 4.55% outright passes in 2020, it represents a significant improvement. Three (3), representing 25% were redeemed following the moderation of the pass mark based on the reasons explained earlier. This is marginally higher than the 22.73% redeemed for the 2020 examinations. Finally, three (3) of the re-sit candidates had outright failures in both Papers 1 and 2. Thus, out of the twelve (12) re-sit candidates who sat for the examinations, nine (9) representing 75% passed, representing a significant improvement over the 2020 performance only eight (8) candidates, representing 36.36% of the re-sitters, passed the examination. Interestingly, candidate with index number 211006-005 obtained an outright pass at the 7th attempt.

Table 7: Performance of Re-sit Candidates

No.	Index Number	Number of Attempts	Outright Passes	Moderated Passes	Fail
1	211006-032	2 nd	Yes	N/A	N/A
2	211006-008	3 rd	Yes	N/A	N/A
3	211006-002	2 nd	N/A	N/A	Yes
4	211006-049	2 nd	Yes	N/A	N/A
5	211006-043	2 nd	Yes	N/A	N/A
6	211006-004	2 nd	Yes	N/A	N/A
7	211006-028	2 nd	N/A	N/A	Yes
8	211006-042	2 nd	N/A	N/A	Yes
9	211006-035	2 nd	N/A	Yes	N/A
10	211006-003	2 nd	N/A	Yes	N/A
11	211006-013	2 nd	Yes	N/A	N/A
12	211006-005	7 th	N/A	Yes	N/A
Total (%)	12 (100%)		6 (50%)	3 (25%)	3 (25%)

3.7 Comparison of First-time and Re-sit Candidates

Out of the thirty-five (35) candidates who wrote the examination, twenty-three (23), representing 65.71% attempted the exam for the first time while twelve (12), representing 34.29%, were re-sitters. Table 8 indicates that while a total of twenty-two (22) of the first-time sitters passed, nine out of the 12 re-sitters passed. This represents a 95.65% and 75.00% pass rate respectively. One (1) representing 4.35% of the first-time sitters failed and three (3) representing 25.00% of the re-sitters failed. In total, 88.57% of all candidates passed and 11.43% failed. The analysis shows that first time sitters of the examination continue to do better than the re-sitters. The very high pass rate of the re-sitters this year is good and we expect that this trend will continue.

Table 8: Comparison of First-time and Re-sit Candidates

Category of Candidates	Number	Total Passes	Percent Pass	Total Failed	Percent Fail
First Time Candidates	23	22	95.65	1	4.35
Re-sit Candidates	12	9	75.00	3	25.00
Total Candidates	35	31	88.57	4	11.43

3.8 Trend Analysis of Average Performance for Examinations

Figure 2 shows the trend of the performance of candidates in the Professional Practice Examination between 2009 and 2021. The data shows a trend of unstable performance over the years with 2015 and 2018 representing the highest average marks of 61.60% and 60.50% respectively, since 2009. In 2021, the average performance was 60.74% representing the second highest average performance recorded since 2009.

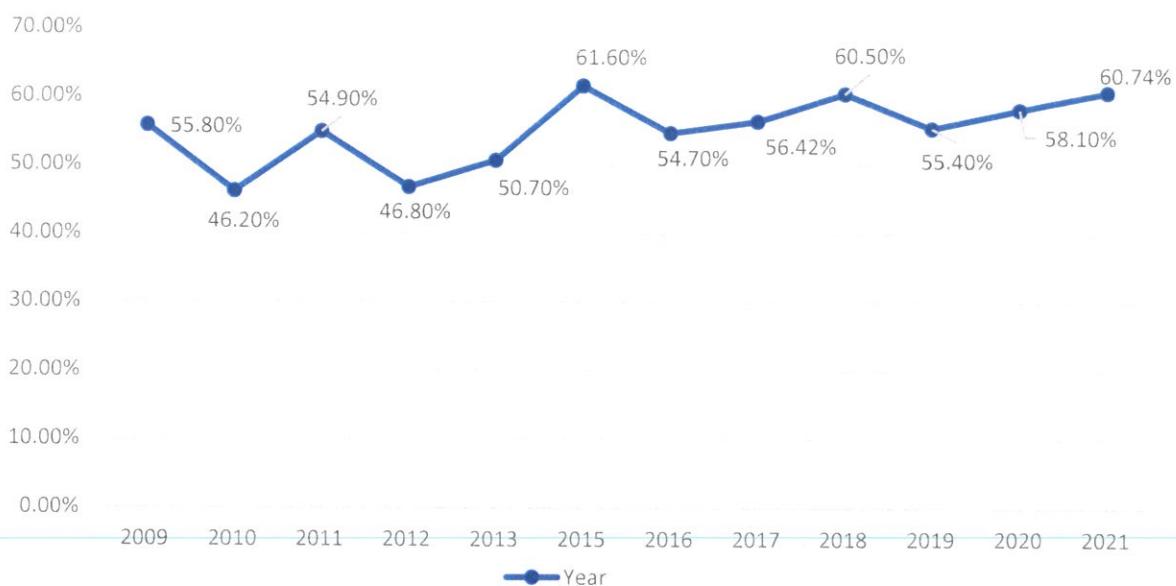


Figure 2: Trend Analysis of Examination Average Mark (%) 2009-2021

3.9 Trend Analysis of Performance for Written Examinations and Interviews

Table 9 shows the trend of the performance of candidates in the GIA Professional Practice Examination for written examinations and interviews. It is clear that the average performance in the interviews was much higher (68.92%) when compared to the average performance of the written examination of 54.64%. In terms of the interviews, Candidates performed better in the post-written examination interviews (70.41%) compared to the pre-written examination interviews (67.43%).

Table 9: Candidate Performance for Written Examination and Interview for 2021

Index Number	Interview One (100%)	Interview Two (100%)	Avg. for Interviews (100%)	Paper 1 (100%)	Paper 2 (100%)	Avg. for Papers 1&2 (100%)
211006-022	90.00	87.85	88.93	70.50	70.50	70.50
211006-041	75.00	80.85	77.93	64.50	67.50	66.00
211006-014	65.00	85.85	75.43	61.50	69.00	65.25
211006-019	60.00	83.35	71.68	64.00	68.00	66.00
211006-037	70.00	79.60	74.80	62.50	63.00	62.75
211006-043	65.00	88.35	76.68	68.00	52.00	60.00
211006-030	70.00	78.55	74.28	59.00	59.00	59.00
211006-023	75.00	82.15	78.58	50.00	62.00	56.00
211006-017	60.00	77.50	68.75	73.50	51.50	62.50
211006-004	75.00	70.00	72.50	62.50	57.50	60.00
211006-006	85.00	52.85	68.93	72.50	50.00	61.25
211006-025	60.00	67.85	63.93	65.50	63.00	64.25
211006-049	60.00	73.00	66.50	58.50	64.00	61.25
211006-038	65.00	76.65	70.83	54.00	60.00	57.00
211006-046	65.00	75.00	70.00	60.00	54.00	57.00
211006-033	70.00	75.70	72.85	63.00	47.00	55.00
211006-048	75.00	63.35	69.18	62.50	52.00	57.25
211006-036	70.00	74.00	72.00	51.00	57.00	54.00
211006-008	65.00	75.70	70.35	51.50	57.50	54.50
211006-032	70.00	69.30	69.65	55.50	53.00	54.25
211006-013	65.00	78.35	71.68	45.50	59.00	52.25
211006-035	70.00	67.15	68.58	49.00	59.00	54.00
211006-024	70.00	67.15	68.58	56.00	50.50	53.25
211006-031	70.00	70.00	70.00	54.00	49.50	51.75
211006-010	65.00	57.85	61.43	63.00	50.00	56.50
211006-034	65.00	58.55	61.78	59.50	51.00	55.25
211006-026	60.00	62.15	61.08	46.00	58.50	52.25
211006-003	70.00	56.45	63.23	43.50	57.50	50.50
211006-040	60.00	59.30	59.65	53.50	50.50	52.00
211006-039	60.00	67.15	63.58	54.00	44.00	49.00
211006-005	60.00	77.85	68.93	42.00	48.00	45.00
211006-002	70.00	58.55	64.28	45.50	36.00	40.75
211006-042	65.00	55.85	60.43	45.00	40.00	42.50
211006-028	60.00	55.70	57.85	33.00	45.00	39.00
211006-009	60.00	55.00	57.50	39.00	35.50	37.25
Average Marks	67.43	70.41	68.92	54.66	54.61	54.64

3.10 Trend Analysis of Performance of Examinations from 2009 to 2021

Table 10 indicates that the percentage of candidates that obtained outright 60% before the moderation of results is 60.00% compared to 43.02% in 2020 and 61.40% in 2015, which is the highest recorded since 2009. This shows that, since 2015, this year's performance is the second highest recorded since 2009. Similarly, the highest average examination mark of 61.60% throughout the analysis period was obtained in 2015, compared with 54.64% recorded in 2021 and 58.10% in 2020. A feature of this year's examination was the introduction of the interviews before and after the written examinations. The average performance for this year's written examination was average and not encouraging.



Table 10: Comparison of Examinations Results (2009 – 2021)

	2009	2010	2011	2012	2013	2015	2016	2017	2018	2019	2020	2021
Total Number of Exam. Candidates	50	57	82	67	78	83	89	79	92	56	86	35
Paper 1 Average Mark (%)	54.10	38.20	57.20	45.40	51.20	60.50	52.30	59.15	57.32	49.69	54.56	54.66
Paper 2 Average Mark (%)	57.40	54.00	51.40	48.30	50.20	62.60	57.10	53.69	63.46	61.10	62.98	54.61
Written Examination Average Mark (%)	55.80	46.20	54.90	46.80	50.70	61.60	54.70	56.42	60.50	55.40	58.10	54.64
*Number obtaining 60% before oral examination or moderation of results	19	5	28	7	20	51	27	28	54	19	37	21
*Percentage obtaining 60% before oral examination or moderation of results (%)	38.00	8.80	34.10	10.40	25.60	61.40	30.30	35.44	58.70	33.93	43.02	60.00
*Number upgraded to 60% after oral examination or moderation of results	4	8	26	16	24	-	-	14	6	10	14	10
Total number recommended for registration after oral examination or moderation of examination results	23	13	54	23	44**	51	27	42***	60***	29**	53****	31** ***
Percentage (%) of candidates recommended for registration	46.00	22.80	65.80	34.30	56.00	61.40	30.30	53.16	65.22	51.79	61.63	88.57

* Not applicable to 2015 - 2018 as the oral examination was replaced with pre-exam screening

** Including the number of candidates who scored between 55.00% to 59.99%

*** Including the number of candidates who scored between 58.00% and 59.99%

**** Including the number of candidates who scored between 58.00% and 59.99%, and those granted compassion.

*****Pre- and post-written examination interviews introduced and including the number of Candidates who scored between 55.00% and 59.99% and those granted compassion scoring 54.57% and 54.83%

Following the moderation of 2021 examination scores, the percentage of candidates recommended for registration is 88.57% compared with 61.63% in 2020, 65.80% in 2011 and 65.22% in 2018. Thus, this year's percentage of Candidates recommended for registration is the highest recorded since 2009 as shown in Figure 3 below.

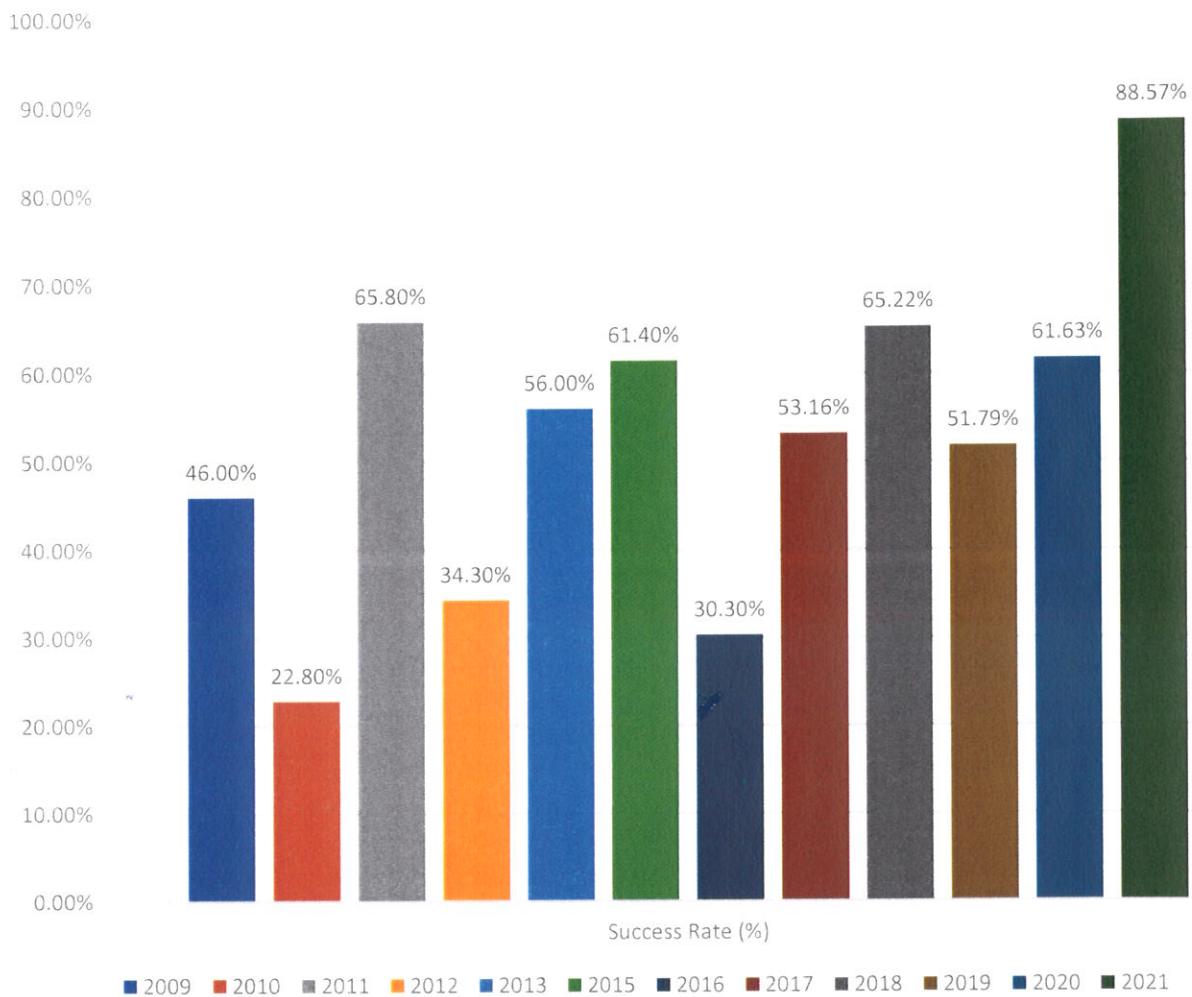


Figure 3: Trend Analysis of Success Rate (percentage) 2009-2021

4.0 RECOMMENDATIONS

The Panel of Examiners is satisfied that the examination was fairly conducted and assessed. The Panel, therefore, makes the following recommendations for the consideration of the Council of the Ghana Institute of Architects and the Board of the Architects Registration Council:

- a. The pass mark for the examination should be scaled down to 55.00% to reflect the exams average mark of 54.64% and to balance the overall poor performance of the candidates.
- b. All thirty-one (31) candidates listed in Table 3 are recommended for acceptance by the Council of the Ghana Institute of Architects and presentation of same to the Architects Registration Council for endorsement and registration.

- c. All four (4) candidates as listed in Table 4 are not endorsed for certification since they did not attain the stipulated examination pass mark.
- d. The following suggestions previously made by the Panel of Examiners based on discussions with examination candidates, inputs from resource persons and examination interviews, are reiterated for the consideration of the Council and the Board:
- The Panel of Examiners should meet all the candidates, before the publication of the results, to discuss the outcome of the examination and explain to the candidates the marking scheme and the model answers.
 - The detailed broadsheet with marks for each question should be published for the candidates to appreciate their weak areas.
 - Candidates should be allowed to review their answer scripts vis-a-vis the examiners' model answers if requested and upon the payment of approved fees, in order to assess their performances.
 - Applicants should be awarded marks (not exceeding 5%) for attendance at seminars.
 - The Panel of Examiners should be given feedback on the final decisions of the Council and Board on the 2021 exam and any subsequent policy directives on the Professional Practice Examination.
- e. The following suggestions are made by the Panel of Examiners based on interactions with Resource Persons, pre- and post-examination interviews for the consideration of the Council and the Board:
- Following weak responses from some of the candidates during the post-written examination interviews, it was obvious that they either did not understand the new procedure for the examination or had not prepared adequately. It is recommended that a seminar on the new modalities for the examination be conducted for the subsequent batches of candidates to sit for the examinations.
 - We recommend the development of and provision of examination transcripts for each candidate as part of the publication of results. If approved, this will take effect from the 2021 examination candidates.
 - Even though an overwhelming majority of the candidates are happy with the new modalities for the examination, they were concerned about the duration of the examinations which had reduced from three to two hours whilst the questions remain unchanged. We recommend that the duration of the examinations be increased from the current two hours to two and a half hours and the necessary permissions and/or exemptions sought from government should the need arise in order to respect all covid-19 protocols.
 - GIA must engage all re-sit candidates and organise special workshops to re-orient them for the examinations.
 - Following the very concerning revelation that a number of the candidates had never seen a number of reports such as environmental, geotechnical etc. before, we recommend that candidates are encouraged to affiliate with offices that can help in this



regard. In addition, resource persons must bring such relevant reports to their seminars when they teach.

- The panel of examiners must review all teaching materials of the resource persons and compile into a book and publish. This must be made available to all candidates at a fee to afford them to have a one-stop shop of all relevant information for the GIA PPE.
 - Marking scheme of the examinations seem to be shrouded in secrecy and this does not inure to the benefit of the candidates. Based on best practices from other industries, we propose that all questions, marking scheme and relevant portions of the examiner's report be made available to all candidates and interested persons at a fee each year.
- f. Upon review of this report on 23rd August 2021, the 2020/2022 GIA Council recommended that information on performance of Candidates be made available to the firms which presented the Candidates. This would assist the firms to focus on areas of practice which they would need to expose the candidates to in order to facilitate their success in the examinations in the future.
- g. In addition, the Council recommended that re-sit candidates be made to complete log books for the period leading to their next attempt. This is to ensure that they remain with their principals and supervisors to attain the necessary proficiency following feedback to these principals.

5.0 APPRECIATION

First of all, we are grateful to the Lord almighty for the grace to execute this task. The Panel of Examiners is also very grateful to the Council of the Ghana Institute of Architects for the opportunity to serve the institute in this capacity. We appreciate the logistical provisions and encouragement throughout the process. Again, we are thankful to the Administrative staff of the Ghana Institute of Architects led by the Administrator, Ms. Nancy Aidoo, for the technical backstopping and their tireless efforts in ensuring that it was a smooth process. God bless you all.

6.0 EXAMINERS' SIGNATURES

The Examiners hereto have caused this report on the 2021 Ghana Institute of Architects Professional Practice Examination to be signed in their respective names as of 17th August 2021. Kindly find the signatures on the next page.

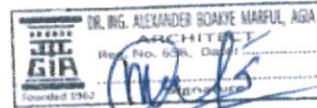


25 AUG 2021

EXAMINERS

SIGNATURES

1. Arc. Dr. Daniel Duah (Chief Examiner)



2. Arc. Dr. Alexander Boakye Marful (Secretary)

3. Arc. Foster Osae-Akonnor

4. Arc. Richard Dadey

5. Arc. William Nii Teiko Evans-Anfom

6. Arc. Sylvia Larbi

7. Arc. Daniel Gyarteng

8. Arc. Tony Asare



25 AUG 2021

**APPENDIX ONE (1):
GIA PPE WRITTEN EXAMINATIONS QUESTIONS
FOR PAPER ONE**

No.	Name of Candidate	Paper to Write	Index Number
1	Addy , Alfred Nii Amoo	All	211006-002
2	Adraku , Joshua	Resit: 1	211006-003
3	Adu Ofori , Eric	All	211006-004
4	Adu , Fred Donkor	All	211006-005
5	Adumata , Peter	All	211006-006
6	Agyemang-Prempeh , Gerald Nana Akwasi	Resit: 1	211006-008
7	Ampah , Kwasi Atta Asafoa	All	211006-009
8	Anaman-Mensah , Josiah Badu	All	211006-010
9	Asare Anim , Kwadwo	Resit: 1	211006-013
10	Asempapa , Desmond	All	211006-014
11	Awume , Jeremiah	All	211006-017
12	Baidoo , Isaac Kojo	All	211006-019
13	Bornmai , Eugene Nii Bortey	All	211006-022
14	Darkwah , Michael Kwame	All	211006-023
15	Fiadjo , Esther Mawunyo	All	211006-024
16	Fianu , Carin Awoenam	All	211006-025
17	Ghanny , Joel	All	211006-026
18	Kparkpar , Tettey Anthony	All	211006-028
19	Kyei , Mensah Samuel	All	211006-030
20	Lamusah , Gregory Mbawin	All	211006-031
21	Nimako-Boateng , Andrew	All	211006-032
22	Ntim-Addae , Henrietta	All	211006-033
23	Nutefe , Elikem Yao	All	211006-034
24	Obese-Jecty , Kwadwo Ankamah	Resit: 1	211006-035
25	Ofosu , Eva	All	211006-036
26	Opoku Agyemang , William	All	211006-037
27	Osei-Poku , Ernest	All	211006-038
28	Osei-Safo , Nana Kesewaa	All	211006-039
29	Oti-Ompong , Emmanuel	All	211006-040
30	Owusu , Phelim	All	211006-041
31	Padi , Stephen Tetteh	All	211006-042
32	Segbefia , Prince Michael Yao Junior	All	211006-043
33	Tetteh , Frederick	Resit: 1	211006-045
34	Thompson , Jenny Christabel	All	211006-046
35	Tibboh , Archibald Oko	All	211006-047
36	Tsatsu-Green , Maxwell Elorm	All	211006-048
37	Twumasi-Ankrah , Kwame Agyei	All	211006-049

**APPENDIX TWO (2):
INDEPENDENT AUDIT REPORT BY EXTERNAL
AUDITORS**

25 AUG 2021

Department of Architecture
 College of Art and Built Environment
 Kwame Nkrumah University of Science and Technology
 Kumasi, Ghana

Titus Ebenezer KWOFIE, PhD
 Email address: tekwofie.cap@knust.edu.gh
 Telephone: +233 244721622

13th August, 2021

THE CHIEF EXAMINER
 GHANA INSTITUTE OF ARCHITECTS
 ACCRA

COMMENTS: INDEPENDENT EXTERNAL AUDITING OF GIA 2021 PPE

I have critically perused eighteen scripts for questions one to six for Paper 1 and fourteen scripts for questions one to five for Paper 2 and have the following comments and observation:

PAPER ONE:

Largely the marks awarded were very legitimate. There is a clear distinction between full marks awarded and where candidates do not score full marks for a particular question or sub question(s). Where candidates did not score full marks, it was clearly noted that, there was significant contrast between the candidate's answer and the marking scheme and thus the examiner was right to award such score(s). Same can be said for where candidate scored full marks.

For example, on question 1, the scores of candidate 211006-013 was legitimate, same can be said for candidates 211006-009, 211006-017, 211006-032, 211006-004, 211006-049, 211006-013 and 211006-034 on questions 2, 3, 2, 4, 5 and 6 respectively. The examiners have been fair and adequately applied the marking scheme.

PAPER TWO.

From a thorough assessment of the fourteen scripts, it can be noted that the marks awarded to answers given by candidates were accurate and fair and clearly follows the marking scheme. The inadequacies of answers of candidates were clear compared to the marking scheme and thus award of scores less than the full mark(s) were meritable.

By cross-checking the scores, marks of candidates 211006-014, 211006-033, 211006-033, 21106-005, 211006-048 and 211006-002 for questions, 1, 1, 2, 3, 4 and 5 can be said to be accurate and a true reflection of the marking scheme. I took a particular interest in two candidates who scored zero (0) and three (3) for questions 5 and 1 in Paper 2. Following a page by page assessment, I noted a clear deviation by one candidate and below par answers by the other which were not in synch with the marking scheme. Thus the scores were acceptable.



DR. TITUS EBENEZER KWOFIE, AGIA
 (SENIOR LECTURER)

AUDIT REPORT OF PROFESSIONAL PRACTICE EXAMINATIONS ORGANIZED BY THE GHANA INSTITUTE OF ARCHITECTS (GIA) 2021

After a careful examination of the answer booklets of candidates who took part in the recently conducted Professional Practice Examinations, below are the findings:

PAPER 1

Question 1: ENVIRONMENTAL PROTECTION LAWS OF GHANA

A fair understanding of categorization was demonstrated by the candidates but with respect to the specific reasons for the categorization, some candidates lacked clarity.

This is probably because some of the candidates might have never seen a copy of such report.

Question 2: PPA ACT, FIDIC & DONOR FUNDED CONTRACTS

This question sought to test the candidate's awareness of definitions, roles and purposes. The perfect score of 25/25 being the highest and a score of 7/25 being the lowest shows that candidates with a keen eye for detail passed easily. Those who approached this question casually were found wanting

Question 3: THE ARCHITECT & PRACTICE

This was a generally well answered question. This could have been because it touched on the core mandate of an Architect

Question 4: PLANNING LAWS & REGULATIONS

This question sought to look at the various reports needed to prove that one has done due diligence before a project takes off. These answers required candidates to touch on types of reports, their purposes and the specialists providing those reports.

Candidates demonstrated awareness of the reports and their purposes but generally failed to indicate the specialists who generated the various reports

Question 5: GIA CONSTITUTION, CODE OF CONDUCT, REGULATIONS & BY-LAWS

Candidates demonstrated a fair understanding of the general concept of scale of professional charges and the code of conduct. However, the details varied from one candidate to another

Question 6: ARCHITECTS ACT 1969

Understanding of the Architects Act and the authority of the ARC Board was demonstrated by all

PAPER 2

Question 1: PPA ACT, FIDIC & DONOR CONTRACT

Candidates demonstrated two extremes; a clear understanding or completely clueless.

Difficulty in using guess work under this topic could account for those who failed to answer correctly



Question 2: LAWS OF ACCESSIBILITY

Generally, well answered by candidates who knew and could quote the ACT. There are a lot of specifics under this topic so the preparedness or unpreparedness of candidates clearly showed.

Question 3: HEALTH, SAFETY & ENVIRONMENT

Candidates showed an awareness of the general concept of safety but only those who appreciated the vastness of this area of Architecture were able to apply themselves

Question 4: PROJECT MANAGEMENT

Candidates generally had a good understanding of Sectional Completion and Practical Completion

Question 5: CONTRACT MANAGEMENT

Candidates did not demonstrate clear understanding of this question. A lot of vagueness in answers given and details worth mentioning were clearly missing.

In conclusion, it is very evident that candidates who have been exposed to best practices in the Architectural Offices and have seen copies or samples of professional reports should be able to write and excel in these Professional Practice Examinations.

Thank you.

Arc. Kofi Owusu

(Consulting Architect)



**APPENDIX THREE (3):
GIA PPE WRITTEN EXAMINATIONS QUESTIONS
FOR PAPER ONE**



GHANA INSTITUTE OF ARCHITECTS PROFESSIONAL PRACTICE EXAMINATION

JUNE 2021

PAPER 1

DATE: THURSDAY 24TH JUNE 2021

DURATION: 2 HOURS

INDEX NUMBER:.....

Instructions to Candidates

1. Answer Any Four Questions.
2. All questions carry equal marks.
3. Write your index number at the space provided at the front of the question paper.
4. Do not write your name on the answer booklet.
5. Your name must not appear anywhere in your answers.
6. Booklets should be arranged in numerical order.
7. Marks will be awarded for clarity of expression, syntax and grammar as well as the orderly presentation/organisation of answers.
8. The use of programmable calculators, mobile phones and/or other electronic devices are not allowed.
9. Candidates are not allowed to exchange any materials during the examination.

EXAMINERS

Arc. Dr. Daniel Y. A. Duah (Chief Examiner)
Arc. Dr. Alexander Boakye Marful (Secretary)
Arc. Sylvia Larbi
Arc. Richard Nii Dadey

Arc. Tony Asare
Arc. Daniel Gyarteng
Arc. William Nii Teiko Evans-Anfom
Arc. Foster Osae-Akonnor



QUESTION ONE (1)

ENVIRONMENTAL PROTECTION LAWS OF GHANA (25 MARKS)

A Client is considering undertaking one of the following projects. She has requested for an EIA report advice from you as the Project Consultant. The proposed projects are:

- An Airport in the newly created North East Region of Ghana
- A 5-star 120 room Hotel along the Volta lake
- A 12-Bed guest house at Elmina
- A Bottled water manufacturing plant in the light industrial area of Accra

- (a) State the EIA categorization for each of the above. (8marks)
(b) Discuss briefly the reasons for the categories stated in (a). (17 marks)

QUESTION TWO (2)

THE PPA ACT, FIDIC AND DONOR FUNDED CONTRACTS

Using examples, discuss the relevance of each of the Securities in the tendering of public projects as listed below.

- | | |
|-------------------------------------|-----------|
| (a) Tender Security | (5 marks) |
| (b) Performance Security | (5 marks) |
| (c) Advanced Payment Security | (5 marks) |
| (d) Retention Security | (5 marks) |
| (e) Professional Indemnity Security | (5 marks) |

QUESTION THREE (3)

THE ARCHITECT AND THE PRACTICE

Architects, per universal practice, break up the work they do into five (5) to six (6) work stages for the purpose of making it easy to understand and manage. The work stages helps an Architect to outline the design and construction process from the beginning of the project to completion.

- (a) List the work stages required for running a project from beginning to end. (5 marks)
(b) Briefly explain each stage. (20 marks)

QUESTION FOUR (4)**(25 MARKS)****PLANNING LAWS & REGULATIONS (25 MARKS)**

Having been impressed by the flawless delivery of a 48-room hotel by his best friend who employed the services of the relevant consultants in the execution of his project, Mr. Addo John Sule, a wealthy semi-literate in the Bono East Region of Ghana is keen on breaking from his bad habits of building his many projects by himself. There are a number of reports that the Municipal Assembly has requested that Mr. Addo submits for the 3 storey mixed use project he proposes to build which he deems irrelevant. Briefly explain in each case why Mr. Addo would need the following reports:

- | | |
|--------------------------------------|-----------|
| (a) Structural Design report | (4 marks) |
| (b) Geo-Tech report | (4 marks) |
| (c) Traffic Impact Assessment Report | (5 marks) |
| (d) Environmental Report | (4 marks) |
| (e) Ownership Status | (4 marks) |
| (f) Zoning Status | (4 marks) |

QUESTION FIVE (5)**(25 MARKS)****GIA CONSTITUTION, CODE OF CONDUCT, REGULATIONS AND BYE-LAWS**

- A. Clause 1.02 of the GIA Code of Conduct states that: "A registered Architect, when acting as an Architectural Consultant, Advisor or Assistant, shall be remunerated solely by his/her professional fees payable by his/her client or by salary payable by his/her employer. He/she is debarred from any other sources of remuneration in connection with the works and duties entrusted to him/her. It is the duty of a registered Architect to uphold and apply the Scale of Professional Charges adopted by the Ghana Institute of Architects. Your Office is in the process of responding to a Request for Proposal (RFP) for a proposed 40,000 SQM Commercial Office Building in Accra.
- | | |
|---|-----------|
| (a) State the fees for both Pre-Contract and Post Contract consultancy that your office will present as part of their submission. | (6 marks) |
| (b) List two (2) reasons in support of your answer to (a). | (4 marks) |
| (c) Itemise the reimbursable charges for this project. | (6 marks) |
| (d) List two (2) reasons in support of your answer to (c). | (4 marks) |
- B. Your firm having placed third (3rd) among four (4) other architectural firms through the submission of both Technical and Financial Proposal (RFP). The Client's representative who happens to be a former school mate of yours has unofficially informed you that once you are able to reduce your fees it puts you in the lead among the other competitors. What will you do and why? (5 marks)



QUESTION SIX (6)

(25 MARKS)

THE ARCHITECTS ACT 1969

You discover that four (4) years after the demise of a Principal Architect, who is a sole proprietor of this firm, his personal representatives continue to use his particulars and have not contacted the Governing Board in this period.

- (a) Explain if you would consider that as an inappropriate action by the personal representatives or not, indicating the reason(s) for your answer. (10 marks)
- (b) Explain what the key responsibilities of the late Principal Architect's Personal Representatives are. (15 marks)

DYA DUAH

JUNE 2021



**APPENDIX FOUR (4):
GIA PPE WRITTEN EXAMINATIONS QUESTIONS
FOR PAPER TWO**



GHANA INSTITUTE OF ARCHITECTS PROFESSIONAL PRACTICE EXAMINATION

JUNE 2021

PAPER 2

DATE: FRIDAY 25TH JUNE 2021

DURATION: 2 HOURS

INDEX NUMBER:.....

Instructions to Candidates

1. Answer Any Four Questions.
2. All questions carry equal marks.
3. Write your index number at the space provided at the front of the question paper.
4. Do not write your name on the answer booklet.
5. Your name must not appear anywhere in your answers.
6. Booklets should be arranged in numerical order.
7. Marks will be awarded for clarity of expression, syntax and grammar as well as the orderly presentation/organisation of answers.
8. The use of programmable calculators, mobile phones and/or other electronic devices are not allowed.
9. Candidates are not allowed to exchange any materials during the examination.

EXAMINERS

Arc. Dr. Daniel Y. A. Duah (Chief Examiner)
Arc. Dr. Alexander Boakye Marful (Secretary)
Arc. Sylvia Larbi
Arc. Richard Nii Dadey

Arc. Tony Asare
Arc. Daniel Gyarteng
Arc. William Nii Teiko Evans-Anfom
Arc. Foster Osae-Akonnor

**QUESTION ONE (1)****(25 MARKS)****THE PPA ACT, FIDIC AND DONOR FUNDED CONTRACTS**

As an Employer's Representative on the Design and Build of a 6-Storey Head Office building in Accra, what are some of the technical issues you will consider at pre-contract and post- contract stages of the project to limit the occurrence of contract variations.

QUESTION TWO (2)**(25 MARKS)****LAWS ON ACCESSIBILITY**

Your nephew and his friends, who are in the 2nd year at Adisadel College (ADISCO), were involved in an accident on their way to the National Science and Mathematics Quiz Competition in Accra. Whilst one student had broken limbs and is now using a wheelchair, another lost his eye sight and a third suffered hearing impairments. Incidentally, the government and the Parent Teacher Association have awarded various contracts to different consultants and contractors as part of a massive infrastructure upgrade of the school, and they are at early stages of construction.

- (a) As an Architect, you have been consulted to advise the PTA and the school's Administration on what needs to be done for those brilliant, but Physically Challenged Students be able to finish the SHS successfully on the ADISCO Campus. Discuss how all relevant areas will need to be retrofitted and made Barrier free. (20 marks)
- (b) If the Ghana Education Service (GES) decides that it is expensive to fit the place for them, which laws will the GES be breaking and why? (5 marks)

QUESTION THREE (3)**(25 MARKS)****HEALTH, SAFETY AND ENVIRONMENT**

The construction industry is responsible for a sizeable proportion of deaths in the private sector. Majority of accidents on construction sites can be avoided when the appropriate training and equipment are provided, and its usage enforced to make these workplaces safe.

- (a) When a Hazard Control Programme is being considered by an organisation, how would you know what kind of control is needed? (5 marks)
- (b) Explain the different types of Hazard Controls in the order of precedence and effectiveness for construction projects. (12 marks)
- (c) As a Design Engineer/Architect, where potential hazards cannot be prevented, what will you do? (8 marks)



QUESTION FOUR (4)

(25 MARKS)

PROJECT MANAGEMENT

Using examples, explain your understanding of the following in the management of construction projects:

- (a) Practical and Sectional Completion of a project. (6 marks)
- (b) Three (3) implications for issuing the Practical Completion Certificate. (6 marks)
- (c) To the Project Manager, the events that must be satisfied at the issuance of a *Sectional Completion Certificate* to a Contractor. (6 marks)
- (d) The relevance of retention in construction contracts. (7 marks)

QUESTION FIVE (5)

(25 MARKS)

CONTRACT MANAGEMENT

A client is looking to procure a residential building under a Design and Build Contract arrangement. He has provided the prospective contractors with an Employer's Requirement which includes a geotechnical report. Following commencement of the works onsite it is found that the ground conditions are different from what the report provided.

- (a) Discuss if the client eligible to pay extra cost in relation to the current ground conditions and why. (10 marks)
- (b) Discuss how you will go by assessing variations within a Design and Build Contract. (10 marks)
- (c) What is the correct date to go on to the contract document and why? (5 marks)

QUESTION SIX (6)

(25 MARKS)

FIDIC AND DONOR FUNDED CONTRACTS

As an Employer's Representative on the Design and Build of a 6- Storey Head Office building in Accra, what are some of the technical issues you will consider at pre-contract and post- contract stages of the project to limit the occurrence of contract variations.

DYA DUAH
JUNE 2021



25 AUG 2021

Founded 1962

**APPENDIX FIVE (5):
PERFORMANCE OF EACH CANDIDATE IN ALL
SECTIONS**

THE GHANA INSTITUTE OF ARCHITECTS
RESULTS OF PROFESSIONAL PRACTICE EXAMINATIONS 2021



No.	INDEX NUMBER	INTERVIEW ONE (20%)	PAPER 1 - PRE-CONTRACT						PAPER 2 - POST CONTRACT						TOTAL (100%)	Written Exam 60%	INTERVIEW TWO (20%)	FINAL SCORE (100%)	RANK					
			RANK			Q1 Q2 Q3 Q4 Q5 Sub-Total 1			Q1 Q2 Q3 Q4 Q5 Sub-Total 2															
			Q1	Q2	Q3	Q4	Q5	Sub Total 1	Q1	Q2	Q3	Q4	Q5	Sub-Total 2										
1	1211006-002	14.00	6.00	14.00	16.50	9.00	0.00	0.00	45.50	29	0.00	10.00	16.00	0.00	36.00	34	40.75	24.45	11.71					
2	1211006-003	14.00	7.00	14.50	10.00	12.00	0.00	0.00	43.50	32	10.00	0.00	15.00	19.50	13.00	57.50	14	50.50	30.30	11.29				
3	1211006-004	15.00	0.00	21.00	14.00	22.50	0.00	5.00	62.50	10	16.00	12.00	0.00	17.50	12.00	57.50	14	60.00	36.00	14.00				
4	1211006-005	12.00	6.00	8.00	18.00	10.00	0.00	0.00	42.00	33	9.00	9.00	13.00	17.00	0.00	48.00	29	45.00	27.00	15.57				
5	1211006-006	17.00	6.50	21.00	23.00	22.00	0.00	0.00	72.50	2	0.00	15.00	15.00	13.00	7.00	50.00	26	61.25	36.75	10.57				
6	1211006-008	13.00	11.00	14.00	13.00	13.50	0.00	0.00	51.50	24	10.00	0.00	15.00	19.50	13.00	57.50	14	54.50	32.70	15.14				
7	1211006-009	12.00	0.00	7.00	20.00	10.00	0.00	2.00	39.00	34	14.00	9.00	5.50	7.00	0.00	35.50	35	37.25	22.35	11.00				
8	1211006-010	13.00	0.00	14.00	16.00	15.00	18.00	0.00	63.00	8	13.00	10.00	0.00	18.00	9.00	50.00	26	56.50	33.90	11.57				
9	1211006-013	13.00	2.50	17.00	7.00	0.00	19.00	0.00	45.50	29	17.00	0.00	13.50	14.00	14.50	59.00	10	52.25	31.35	15.67				
10	1211006-014	13.00	0.00	20.00	20.00	13.50	0.00	8.00	61.50	13	21.00	0.00	14.00	14.00	20.00	69.00	2	65.25	39.15	17.17				
11	1211006-017	12.00	0.00	19.00	24.00	16.50	14.00	0.00	73.50	1	0.00	13.00	10.50	17.00	11.00	51.50	22	62.50	37.50	15.50				
12	1211006-019	12.00	0.00	14.00	17.00	16.00	17.00	0.00	64.00	7	20.00	17.00	14.00	17.00	0.00	68.00	3	66.00	39.60	16.67				
13	1211006-022	18.00	0.00	19.50	21.00	13.00	17.00	0.00	70.50	3	0.00	17.00	16.00	20.50	17.00	70.50	1	70.50	42.30	17.57				
14	1211006-023	15.00	11.00	12.00	13.00	14.00	0.00	0.00	50.00	26	16.00	15.00	12.00	19.00	0.00	62.00	8	56.00	33.60	16.43				
15	1211006-024	14.00	7.00	17.00	21.00	11.00	0.00	0.00	56.00	18	0.00	9.00	7.50	16.00	18.00	50.50	24	53.25	31.95	13.43				
16	1211006-025	12.00	0.00	18.00	24.00	13.50	10.00	0.00	65.50	5	0.00	14.00	23.00	19.00	7.00	63.00	6	64.25	38.55	13.57				
17	1211006-026	12.00	0.00	10.00	15.00	9.00	12.00	0.00	46.00	28	16.00	14.00	12.50	16.00	0.00	58.50	13	52.25	31.35	12.43				
18	1211006-028	12.00	0.00	11.00	3.00	6.00	0.00	13.00	33.00	35	16.00	9.00	0.00	16.00	4.00	45.00	31	39.00	23.40	11.14				
19	1211006-030	14.00	14.00	12.00	20.00	13.00	0.00	0.00	59.00	16	14.00	13.00	11.00	21.00	0.00	59.00	10	59.00	35.40	15.71				
20	1211006-031	14.00	0.00	14.50	17.00	6.50	16.00	0.00	54.00	20	0.00	12.00	16.00	13.50	8.00	49.50	28	51.75	31.05	14.00				
21	1211006-032	14.00	0.00	25.00	9.50	8.00	0.00	13.00	55.50	19	16.00	13.00	0.00	18.00	6.00	53.00	19	54.25	32.55	13.86				
22	1211006-033	14.00	0.00	16.50	16.50	12.00	18.00	0.00	63.00	8	3.00	21.00	0.00	11.00	12.00	47.00	30	55.00	33.00	15.14				
23	1211006-034	13.00	0.00	7.00	21.00	17.50	0.00	14.00	59.50	15	20.00	0.00	7.00	20.00	4.00	51.00	23	55.25	33.15	11.71				
24	1211006-035	14.00	0.00	10.00	15.00	20.00	0.00	4.00	49.00	27	15.00	0.00	16.50	14.50	13.00	59.00	10	54.00	32.40	13.43				
25	1211006-036	14.00	10.50	11.50	17.50	11.50	0.00	0.00	51.00	25	20.00	11.00	0.00	21.00	5.00	57.00	17	54.00	32.40	14.80				
26	1211006-037	14.00	0.00	11.50	20.00	19.00	12.00	0.00	62.50	10	17.00	17.00	0.00	18.00	11.00	63.00	6	62.75	37.65	15.92				
27	1211006-038	13.00	0.00	11.00	17.00	10.00	16.00	0.00	54.00	20	0.00	16.00	15.00	13.00	60.00	9	57.00	34.20	15.33	62.53				
28	1211006-039	12.00	0.00	14.50	19.00	4.50	16.00	0.00	54.00	20	0.00	15.00	10.00	15.00	4.00	44.00	32	49.00	29.40	13.43				
29	1211006-040	12.00	4.00	16.00	19.00	14.50	0.00	0.00	53.50	23	8.00	8.00	13.00	21.50	0.00	50.50	24	52.00	31.20	11.86				
30	1211006-041	15.00	9.50	24.00	16.00	15.00	0.00	0.00	64.50	6	11.00	19.00	15.50	22.00	0.00	67.50	4	66.00	39.60	16.17				
31	1211006-042	13.00	9.50	10.00	23.00	11.00	14.00	0.00	45.00	31	12.00	5.00	0.00	17.00	6.00	40.00	33	42.50	25.50	11.17				
32	1211006-043	13.00	0.00	20.00	23.00	11.00	14.00	0.00	68.00	4	0.00	11.00	15.00	14.00	12.00	52.00	20	60.00	36.00	17.67				
33	1211006-045	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00				
34	1211006-046	13.00	11.00	19.00	0.00	13.00	17.00	0.00	60.00	14	0.00	19.00	13.00	19.00	3.00	54.00	18	57.00	34.20	15.00				
35	1211006-047	15.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00				
36	1211006-048	15.00	0.00	15.00	22.50	9.00	16.00	0.00	62.50	10	8.00	15.00	0.00	23.00	6.00	52.00	20	57.25	34.35	12.67				
37	1211006-049	12.00	0.00	16.00	13.00	12.50	17.00	0.00	58.50	17	20.00	17.00	0.00	17.00	10.00	64.00	5	61.25	36.75	14.60				
38	1211006-050	12.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00	0.00	0.00	0.00	36	0.00	0.00	0.00				
	13.45	8.25	14.99	16.99	12.74	15.56	8.429	54.66	14.52	13.28	13.18	17.04	9.94	54.61	54.636	32.78143	14.08	54.636	32.78143	14.08				