

**HKIA / ARB Professional Assessment 2019**  
**Paper 1: Statutory Controls in Building Works**  
**Examiners' Report**

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## **STRUCTURE OF PAPER**

Paper 1 comprised two sections, one for multiple-choice (MC) questions and the other for essay questions.

The MC section had 40 questions. Each MC question carried 2 marks. The passing mark was set at 65%.

For the essay question section, candidates were required to answer 1 compulsory essay question and 2 out of 3 other essay questions. The compulsory question carried 30 marks and the other two questions carried 15 marks each. The passing mark was set at 50%.

Set on topics detailed in the syllabus of PA Handbook, the questions tested candidates' knowledge, skills and maturity to handle their day-to-day work as an Architect.

## **ASSESSMENT OBSERVATIONS**

### **FOR WHOLE PAPER**

340 candidates took Paper 1 and 124 candidates (36.47%) passed.

### **FOR MULTIPLE-CHOICE QUESTIONS**

The mean mark and standard deviation were comparable to that of the previous years. 104 candidates passed (30.58%) and the mean mark was 56.4 marks out of 100.

### **FOR ESSAY QUESTIONS**

154 candidates passed (45.29%). The passing rates of the essay questions were as follows:

Q1 – 69.64% (234 out of 336 candidates)

Q2 – 36.86% (80 out of 217 candidates)

Q3 – 54.50% (115 out of 211 candidates)

Q4 – 23.03% (44 out of 191 candidates)

## **Question 1 (Compulsory)**

### **Structure of Question**

The compulsory question, carrying 30 marks, was based on a combined site in Tsuen Wan within 1 km from Tai Wo Hau and Tsuen Wan MTR stations. It was zoned 'Comprehensive Development Area (6)' under the Outline Zoning Plan, with a total *maximum* plot ratio of 5.0, of which a *minimum* plot ratio of 4.5 shall be for domestic use. The site was assembled from several lots, all fully developed for industrial use, as permitted under the respective land leases.

As in previous sessions, candidates were asked to discuss and address the following issues:

- Development parameters under OZP and application for approval under Town Planning Ordinance.  
(5 marks)
- Restrictions under lease conditions, application for relaxation and its other implications.  
(5 marks)

- A development proposal in compliance with OZP and parking requirements under HKPSG.  
(10 marks)
- Checking the development proposal for compliance with Building (Planning) Regulations and PNAP-APP 152.  
(10 marks)

### **Assessment Observations**

- *Outline Zoning Plan*  
Most candidates demonstrated basic competence in reading the OZP and answered correctly on procedure of application under Section 16 of the Town Planning Ordinance, involving submission of a master layout plan and various impact assessment reports.
- *Lease Conditions*  
Most candidates understood the procedures of applying for lease modification and negotiating land premium, and the need to engage proper professional advice. Many candidates correctly mentioned that Lands Department would refer to the approved MLP in granting lease modifications, but others confused land issues with planning issues, and hence scored poorly in this section.
- *Compliance with OZP*  
The majority of candidates had no problem with formulating a development proposal complying with OZP parameters for development density and HKSPG for provision of car parking and loading/unloading facilities. They were reasonably well informed of the precedence of the TPO over Building (Planning) Regulations in the control of development density. Some candidates used the *pro rata* formula, as prescribed under B(P)R 21(2), in determining the plot ratio for domestic use, after deduction for non-domestic use, which is clearly not called for under OZP. Others got bogged down with maximising site coverage and proposed a development that was substantially below the maximum permitted building height, which is not the intention of the question.
- *Checking for Compliance with B(P)R*  
This is the area in which candidates' performance was weakest. Presentation of calculations, with a few exceptions, was poorly organised, which points to a general lack of practical experience in preparing general building plans for submission to the Building Authority. Less than half of the candidates correctly demonstrated compliance with B(P)R in terms of gross floor area, plot ratio and site coverage, particularly relating to a composite development on an integrated site. Building separation and setbacks presented less of a challenge and most candidates earned credit in these topics.

### **Comparison with Session 2018**

- The development site is zoned 'CDA (6)', which bears a certain similarity to the 2018 paper. Apart from this, there is no requirement for provision of G/IC facilities and internal vehicular circulation within the site, and all towers are designated for domestic use only. Commercial accommodation is limited to a maximum plot ratio of 0.5, to be located on a particular component lot of the site, and hence an extensive podium under the domestic towers is not an option.
- Demonstration of compliance with OZP, in terms of building height and gross floor areas, is thus comparatively straightforward. Candidates were required to work out the provision for car-parking and were given credit for correct procedure in following HKSPG, even if they failed to meet targets for gross floor areas, in working out realistic numbers and sizes of residential flats and non-domestic gross floor area.
- As in previous sessions, the marking regime followed a template designed to maintain consistency between the assessors. The overall rate of candidates attaining 15 out of 30 marks for this question is around 69%, compared with 62% in the previous year.

- The overall improvement in the candidates' performance may be attributed to the following factors:
  - The question format, particularly in parts (a) and (b) relating to OZP and land lease, respectively, follows similar pattern as in previous sessions and was familiar to most candidates.
  - With the help of foundation lectures, PA lectures and workshops, candidates had acquired reasonable knowledge on these issues and hence scored well, overall.
  - Restrictions under OZP are more straightforward, compared with the previous session, and most candidates had no difficulty in interpreting them, aided by their knowledge acquired through studying past papers and attending lectures and workshops.
  - Judging from the answers, it was obvious that candidates who attended the workshops were better prepared for matters relating to lease modification and application of HKPSG in determining car-parking provision.
  - Candidates were generally well prepared for complying with requirements for building separation and setbacks from streets, under PNAP-APP 152.

### **Advice to Candidates for Question 1**

- Download questions from past papers and work on them within the suggested time limit, as if sitting the paper.
- Take time to understand the question before moving on to write down the answers. The questions are not designed to trick candidates, but require systematic analysis and thorough understanding of the problem, and a degree of preparedness in tackling the various issues.
- Statutory control of development density is exercised under different ordinances and a particular set of parameters applies to each of them. Centralised processing of building plans does not imply that any government authority has the mandate to make decisions on behalf of another department.
- Find an opportunity to read through a set of recently approved general building plans and learn to master the procedure of demonstrating compliance with restrictions under B(P)R, with respect to plot ratio and site coverage.
- The question is based on the fundamental checks that an architect is expected to carry out on being approached for professional advice on a potential development project in Hong Kong. Equipping oneself with this basic competence goes a long way beyond passing the HKIA/ARB Professional Assessment.

### **Question 2**

More than half of the candidates could not provide a satisfactory answer to this general question. Elaborations on controls for existing buildings under BO, MBIS, MWIS, orders by the BA and Minor Works Control System, etc. are expected and brief discussions on half of the above could constitute a pass. Introduction of Fire Safety Ordinances, Household Minor Works Validation Scheme, urgent works, etc. could carry bonus marks.

Some of the candidates provided almost blank or totally irrelevant answers, which were awarded with lowest marks. They might have no examination time left or wrongly understood the question.

Many of the candidates provided incomplete answer, in which only 1 or 2 of the above keys were briefly discussed or only some of the key terms were stated without any elaboration. Therefore, a passing score (i.e. 8 or above out of 15) could not be awarded. The candidates' understanding on controls for existing buildings or even the spirit of Buildings Ordinance was quite weak.

Many of them could briefly elaborate about half of the key points and therefore a marginal pass could be awarded, but only some of them could totally handle the question and elaborated both the regular maintenance and urgent repair parts thoroughly and high marks could be given.

### **Question 3**

In this question, candidate's knowledge on the statutory framework of demolition works and corresponding precautionary measures was tested. The question was relatively simple and straight forward, in particular for part (b), and the performance of candidates in this question was generally acceptable.

In part (a), most of the candidates failed to provide a thorough short term programme with all the key milestone dates included. Given the age of the building, many candidates were unaware of procedures such as the submission of Asbestos Management Plan. Candidates were welcome to make assumptions to the site and to include in the short-term programme activities such as obtaining excavation permit for hoarding / demolition related works on public land and conducting Contaminated Land Assessment.

Performance of part (b) was generally satisfactory. Many candidates managed to describe the major elements included in the demolition plan.

Part (c) asked for the precautionary measures required prior to commencement of demolition and was straight-forward. Many candidates focused on the description of precautionary measures such as hoarding, covered walkway, catch platform and scaffolding, but neglected all other necessary precautionary measures. It reflected the candidates' insufficient depth of knowledge of the topic discussed.

Performance of part (d) was barely satisfactory. Hoarding layout abutting the carriageway was well explained by most of the candidates. However, most of the candidates failed to illustrate a proper and complete hoarding arrangement for the remaining portion of the site.

### **Question 4**

The question tested candidates' understanding on a variety of topics on Building (Planning) Regulations.

For part (a), most candidates could identify that the site was a Class A site and the area of open space provided should not be less than one-half of the roofed-over area of the tower. Part (b) of the question was on the major façade requirements of EVA and it also proved to be not difficult to candidates. Most candidates were aware that the major façade (i.e. 25% of the building perimeter walls) should be within 10m from the EVA, though few could correctly worked out the exact length of the major façade. Part (c) asked candidates on the adequacy of the number and width of fire escape staircases in a hypothetical building proposal. They should calculate the total occupancy of the building and the discharge values of the staircases in order to answer the question. Some candidates, however, incorrectly approached the question by calculating the required total widths of the staircase.

## **RECOMMENDATIONS TO CANDIDATES**

**To improve performance in the Paper, candidates are recommended to:**

- (a) Attempt to answer the required number of essay questions.
- (b) Attend the lectures and workshops arranged by HKIA. Prepare for the lectures beforehand and familiarize themselves with the materials and topics covered.
- (c) Get on-the-job experience and site experience, and go through a Hong Kong project from the inception to completion stage if possible.
- (d) Discuss with colleagues on what they have done, and reflect on how statutory controls have affected their projects.
- (e) Keep abreast of the times, and observe and reflect on the impact of government policies on the built environment.

Paper 1 Subject Panel Chair

**HKIA / ARB Professional Assessment 2019**  
**Paper 2: Building Contracts, Professional Practice, Professional Conduct,**  
**Conditions of Agreement**  
**Examiners' Report**

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## **STRUCTURE OF PAPER**

Paper 2 is an open-book examination comprising multiple-choice and essay questions.

The MC section had 80 multiple-choice questions. Each MC question carries 1 mark. The passing mark was set at 65%.

For the Essay Questions section, candidates needed to answer 1 compulsory question for Part A Professional Practice, Code of Professional Conducts and Conditions of Agreement, and 2 out of 3 questions for Part B Building Contract. Question for Part A carried 15 marks while questions for Part B Building Contract each carried 15 marks. The passing mark was set at 50%.

## **ASSESSMENT OBSERVATIONS**

### **GENERAL**

296 candidates took Paper 2. 168 candidates (56.76%) passed.

### **FOR MULTIPLE CHOICE QUESTIONS**

171 candidates passed (57.77%); the mean is 64.2% marks out of 100.

Whereas the standard deviation is comparable to those of the previous years, the mean mark is slightly higher than that of the last year.

### **FOR ESSAY QUESTIONS**

166 candidates passed (56.08%). Passing rates of the essay questions are as follows:

SQ Part A - Q1 – 85.71% (252 out of 294 candidates)

SQ Part B - Q2 – 54.90% (140 out of 255 candidates)

SQ Part B - Q3 – 22.17% (57 out of 257 candidates)

SQ Part B - Q4 – 50.84% (30 out of 59 candidates)

## **Part A Question 1**

### **Question 1a**

This question asked about a discussion of the different methods of remuneration as stated under the Standard Form of Agreement. Candidates were expected to relate the pros and cons of different approaches to the specificity of the project.

There were distinguished answers which could integrate these general principles into the project in question, i.e. proposing an appropriate remuneration method in response to each different type of building works for the revitalization project. Quite a number of answers were direct copying from the Standard Form of Agreement without any discussion on the nature of works.

### **Question 1b**

The question was based on the scenario of an HKIA member being asked to take over a project and further develop the scheme design prepared by another HKIA member. Candidates were asked to outline the proper protocol the HKIA member should follow, before accepting the offer of appointment.

Candidates were expected to refer to Clause 3.6.2 of the HKIA Code of Professional Conduct and briefly discuss the following aspects:

- The service of the previously engaged architect, an HKIA member, has been properly terminated by the client.
- The HKIA member shall notify the other HKIA member in writing before taking up the appointment.
- The previous architect has agreed to transfer the right to use any information, drawings and design prepared by him/her to the client.

Most candidates had no difficulty in identifying the above issues and were given credits accordingly. The skill of delivery varied: some tended to write too much, often vaguely, instead of concentrating on the main points. Others touched on issues such as settling the fees owed to the previous architect, or the architect's obligation to faithfully perform duties, which were not central to the question.

Candidates were advised to read the question carefully and focus on the specific clauses of the Code. Irrelevant arguments would not earn extra marks and the time spent could be saved for another question.

### **Question 1c**

This question was about the possible commitment of Prevention of Bribery Ordinance and the candidates were expected to be well acquainted with the major elements of bribery offence and the considerations in dealing with ethical dilemmas at work.

This was the easiest question and those who attended the lecture could successfully obtain high marks.

### **Part B Question 2**

This question was based on an Alterations and Additions (A&A) project for renovation of a shopping mall.

#### **Question 2(i)**

- The question asked for practical ways to include the requirement for continuous operation of the shopping mall into the contract.
- Some candidates were able to mention the provision of "sectional possession of site" while many failed to apply "section completion" clause. Both are equally important to maintain the shopping mall open during construction.
- Many candidates mixed up "Clause 18 Partial Possession of Site", which shall be used when contract commenced and was not appropriate in this case.
- Many candidates did not mention about the "implication" which is the issuance of separate Defects Rectification Certificates.

### **Question 2(ii)**

- Candidates were asked to suggest ways to handle different scenarios of non-compliance with the contract specifications: (a) stock available for the specified products was not sufficient for the project; (b) installed material was not the approved brand; (c) works installed were suspected to be not in accordance with the Contract.

#### Question 2(ii)(a)

- Most candidates could point out that the Contractor shall submit alternative proposals.
- Candidates were expected to understand Architect's responsibility to instruct a Variation if the proposed alternative materials or good are not of similar type, standard, quality or price. However, some students mentioned that alternative proposal from Contractor shall be with no cost impact.

#### Question 2(ii)(b)

- Most candidates understood that Architect could ask the Contractor to remove the blind which was not the approved brand.
- Not many of them could provide alternative to accept the electrical blinds installed, subject to reasonable reduction in Contract Sum.

#### Question 2(ii)(c)

- Many candidates misunderstood this question and seemed to miss the word "suspect" in the question. Therefore, these candidates would request to remove the tiles and reapply the waterproofing.
- Candidates who understood the question correctly could mention open up inspection while some of them failed to provide consequence if the waterproofing were applied up to the specified height.

### **Question 2(iii)**

This section is straight forward and asked for the action to be taken when the Contractor failed to rectify all defects during the DLP. Few candidates could list out the procedures.

### **Part B Question 3**

This question consisted of two main parts which were about granting of Extension of Time (EOT). The candidates were expected to discuss about general implications of EOT and major considerations and procedures in the granting of EOT in the first part (i & ii) , and further elaborate in the second part (iii & iv) on how to handle any amendments to granted EOT, before and after substantial completion.

Results for this question were surprisingly poor. Parts (i) and (ii) were concerned about the basic principles in the implications of EOT and the considerations for EOT assessment. In particular, many candidates were not able to discuss the important considerations for EOT, even though the main issues were spelled out in the Standard Form of Contract clauses 25.1(4) & 25.2(1)(a)&(b). Many just copied the required timeline of EOT submissions from the Standard Form which could only address the first part of (ii). Apparently, the candidates had minimal practical experience, and knowledge on EOT was merely from textbook.

For (iii), candidates' concepts for EOT assessment were confusing. Only a few were able to point out the issue in question was about Clause 25.3(7) and relate it to the issue of unreasonableness. It was unreasonable to shorten the previously granted EOT just ONE

day before the New Completion Date, as this would create unfairness to the Contractor who had been basing on the previously granted EOT for his works programme. Some candidates had even wrongly interpreted that once EOT was granted, it could not be changed under any circumstances as they wrongly considered that it should be the Architect's final decision.

Part (iv) was a follow-up of part (iii) and also poorly answered. Under Clause 25.3(8), within 90 days after Substantial Completion or any later date agreed by the parties, the Architect had to finalize the EOT assessment and could not amend the previously granted EOT to a date earlier than the previously fixed Completion Date. It was because doing otherwise would induce an unfair situation to the Contractor as his progress of works had already been based on 60 days of EOT (first delay event) before issuance of instructions for the second delay event. The Contractor should therefore be entitled for another 10 days of EOT according to the Architect's assessment.

If the Client was concerned about a claim of Loss and Expense due to granting of EOT, he could consider negotiating with the Contractor if such could be waived. Any other reasonable suggestion by the candidate could also be accepted. Some candidates, however, proposed Delay Recovery Measures proposal which should not be applicable when the delay had already been occurred.

#### **Part B Question 4**

The question specifically requested the candidates to form an opinion if a crack was a defect, and whether item enhancing its performance, or avoiding cracks, was indeed additional or these "enhancement" items were already included in the contract, implied or express.

This was an integrated and contextual question specific to a situation. It required a diagnosis of the circumstances and an analysis of the issues, including duties and responsibilities of the parties involved. The question also required the candidates to have a basic conceptual, contractual, technical, and practical understanding, then to analyze the situation and problem, in the light of the technical and contractual aspects, and then to come to an opinion in order to advise the client. The scenario was made more complicated by the introduction of a vicarious duty between the architect and his subordinate.

Around half of the answer scripts for this question scored 7.5 out of the total of 15 marks. They were able to answer in a sensible way, demonstrating understanding and application of concept in the given scenario which they could elaborated to a certain extent.

But there were some who appear to have no understanding about the duty and responsibility, and the relationship, between the architect and the main contractor. Some were mixed up. Some said it was the fault of the contractor while some said it was a mistake of the architect. Unexpectedly, many candidates could not identify the key technical issues and as such they could not elaborated more on the design responsibility, which was the key issue. Some candidates just jumped to the conclusion without an analysis of the technical and contractual justifications. Some candidates appeared to have a wrong concept as what qualifies as a defect. Some candidates tried to answer by quoting the procedures, including DLP process, warranty, limitation ordinance, CVI, or even code of conduct, which were too remote and not relevant. It would appear the candidates were weak in the analysis of issues given a specific circumstance.

It would appear also that some candidates have little real-life experience in handling this kind of integrated technical - contractual problem. Most candidates did not present both side of the arguments before coming to a conclusion.

Very few candidates were able to use contractual keywords like duty of care, unforeseen, responsibility, reasonable, etc. in their argument. Those who were not familiar with these contractual or legal keywords had difficulty in writing their argument.

Some of the answers, like only two or three sentences, were far too short to adequately address and elaborate the issues. On the other hand, some candidates elaborated considerably on procedures, which were not too relevant. One candidate even expanded on the architect's duty list. It would appear therefore that some candidates were more concerned about know-how rather than know-why.

Some candidates could not write in clear and simple English, in essay format, while there were some with very poor handwriting making it very difficult to read.

## **RECOMMENDATIONS TO CANDIDATES**

In general, candidates demonstrated an acceptable standard in organization and presenting their knowledge in written English.

Candidates are advised to explore more opportunities to learn from work or ask their seniors about practical solutions to deal with issues like EOT assessment, rationale in fee proposal preparation, and dealing with Contractor's claims.

Candidates should read and analyze the question carefully, identify the issues and make proper references and applications of the learnt principles. The examiners are looking for discussions and reasoning based on contract principles, instead of direct copying from resources. There may not be only one answer to the question.

Paper 2 Subject Panel Chair

**HKIA/ARB Professional Assessment 2019**  
**Paper 3 - Building Structures**  
**Examiner's Report**

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**STRUCTURE OF PAPER**

Paper 3 was an open-book examination comprising multiple-choice questions only. The paper consists of 60 multiple-choice questions. The passing mark is set at 65%.

Two assessments were carried out for Paper 3 in March and July in 2019. The paper for each of the two assessments was set in a similar format and structure covering a variety of topics.

Questions covered various aspects of building structures, including general structural principles, different structural forms and systems, foundation systems, excavation and lateral support systems, load paths and force diagrams, practice and construction, and a case study. Diagrams were included as appropriate for better understanding of the questions.

**ASSESSMENT OBSERVATIONS**

The passing rates for the two assessments were 66.89% and 39.05%. The overall passing rate of Paper 3 in PA2019 was 63.93%, which was lower than that in PA2018.

The “mean mark” for the two assessments this year was 70.15% and 60.4% respectively, with a “standard deviation” ranging from 12.5% to 14.53%.

The “mean mark” of the March assessment is slightly higher than the passing mark of 65%, which indicates that the average candidates' performance was generally up to the required standard, while the lower “mean mark” of the July assessment indicates that the average candidates' performance was slightly lower than the required standard, which was also reflected in the lower passing rate. A reasonable “standard deviation” indicates that the assessment had generated a broad range of marks, and was fair, and effective in differentiating the abilities and depths of knowledge of the candidates.

It was also observed from the results that the candidates had shown weaknesses in certain areas, including the less common and less conventional structural systems (such as trusses, long-span structures, etc), and construction and practice (such as material properties, real-life application of different structural systems, etc). It was also observed that the results and general performance on the questions on the basic structural principles and concepts (such as load path, simple bending moment diagrams, etc) were also not very satisfactory.

## **RECOMMENDATIONS TO CANDIDATES**

On top of the studying the recommended reading list, the candidates are also encouraged to gain more knowledge and exposure by the following means:-

- (a) Candidates are recommended to attend the Professional Assessment Seminar / Lecture Series organised by HKIA, not only for the Professional Assessment but also to broaden their knowledge.
- (b) Candidates are encouraged to get more on-job experience, guidance from office supervisors and seniors, and learn through better communication / coordination with structural engineers at work.
- (c) Sharing of knowledge and experience with fellow colleagues and graduates is also encouraged, and should be helpful if job exposure is limited.

Paper 3 Subject Panel Chair

**HKIA / ARB Professional Assessment 2019**  
**Paper 4 – Building Services and Environmental Controls**  
**Examiners' Report**

**STRUCTURE OF PAPER**

Paper 4 followed the same format as used previously: an 'open-book' test with 60 multiple-choice questions. Passing mark was set at 65%.

Questions were worded in clear and straightforward language and answers involving combination of choices were used with discretion and restraint. Test topics were as prescribed in the syllabus, viz. basic principles, sustainable design and environmental issues, HVAC, fire services, plumbing and drainage, electrical services and acoustics, with emphases as outlined below:

1. Aspects of different disciplines in building services, both fundamental and pertaining to real-life applications, that a practising architect is expected to be familiar with;
2. Issues concerning safety, hygiene, human comfort and enjoyment;
3. Matters related to sustainable design and environmental issues that have been gaining attention in recent years.

Essentially, questions were designed to test candidates' knowledge, skills and maturity in handling day-to-day situations as leader of the building team.

As in previous years, a significant portion of the paper was based on questions asked before. The intention of reusing past questions was to encourage candidates to study those familiar topics in greater depth, so as to enrich their knowledge in the respective fields.

**ASSESSMENT OBSERVATIONS**

Paper 4 was conducted twice, in March and July 2019. 'Mean marks' were 57.82% and 62.3%, with corresponding 'standard deviations' at 9.87% and 10.8%, and passing rates at 46.70% and 58.33%, respectively. The overall passing rate, adjusted to the actual number of sitting and successful candidates, was 67.60%, similar to that of 2018, 64.10%.

The seminar series was organised with particular focus on environmental issues, as in previous years, and the recommended reading list included literature on these topics.

Generally, candidates tended to perform better in book-based questions, such as those on theories, fundamentals and basic knowledge, which they had learned through reading, but were generally less competent in answering job-based questions, even though answers could be found in published circular letters, manuals and codes of practice.

### **ADVICE TO CANDIDATES**

Broadening of exposure to the related issues is the key to good performance. In addition to following the recommended reading list, candidates would do well to enhance their knowledge by:

- (a) Attending the 'Paper 4' seminars and related public events organised by the HKIA and other professional bodies;
- (b) Getting on-job experience and working in closer coordination with building services and environmental consultants;
- (c) Getting hands-on experience in complying with OTTV, RTTV, IAQ, BEAM Plus and other environmental assessment criteria;
- (d) Reading documents and records kept by other members of the project team if on-job exposure, as mentioned in (b) and (c) above, is either inadequate or unavailable; and
- (e) Taking the initiative to go through specifications, material and equipment submissions, shop drawings, method statements, etc, to get a general picture of how things work, even though technical details are normally handled by building services consultants.

Paper 4 Subject Panel Chair

**HKIA / ARB Professional Assessment 2019  
Paper 5 Building Materials and Technology  
Examiners' Report**

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**STRUCTURE OF PAPER**

Paper 5 was an open-book examination comprising multiple-choice questions only. The paper consisted of 60 multiple-choice questions. The passing mark was set at 65%. The questions were set at a very similar format and variety in each examination. In 2019, the paper was set for two assessments in March and July.

The content of the paper covered the various trades of construction regarding materials and technology, actual practices including working procedures and detailing as well as law related construction questions such as the Building Ordinance and Regulations, PNAP, Codes of Practices, etc. Questions with diagrams were set so that more than one question can be asked out of it. Generally, the questions were quite straight forward and all based on Hong Kong local practices and experience. About half of the questions were past paper questions.

**ASSESSMENT OBSERVATIONS**

The respective passing rates for the two assessments were: 81.37 % and 73.56 %. The passing rates and degree of difficulties had been consistent with papers 3 and 4. The overall passing rate of the paper (84.78%) had improved when compared to that in PA2018 (66.87%).

**OUTLOOK FOR COMING YEAR 2020**

The panel will maintain its standard of setting questions and insist on preparing new questions for the year 2020. However, more focus is given to the lectures for explaining clearly the scope of examination.

**RECOMMENDATIONS TO CANDIDATES**

1. Study the materials and technology in terms of the various building trades.
2. Look at building control on construction and updates with the PNAP.
3. Study detail construction drawings of various components at the candidates' office or through local book references.
4. Learn the procedure of construction for various trades.
5. Read about how to write the specification of materials.
6. Attend all lectures given by the panel to understand the scope of the assessment.

Paper 5 Subject Panel Chair

**HKIA / ARB Professional Assessment 2019**  
**Paper 6: Site Design**  
**Examiners' Report**

**1. The Question**

The test case is a Co-working Campus for Creative Industries comprising Co-working office block(s), Long-stay Quarter and short-stay Quarter(s) for visitors and young people working in the campus, and a Multi-purpose Hall with a plaza opens to public for exhibition and presentation.

The Site is a stepping site with a historical park at the centre to be reserved. It is rectangular in shape and bounded by roads on four sides. A school is located across one of the local road. Existing platform and level change is to be respected. Major site formation work is not expected considering construction cost.

The task is to produce a preliminary master layout plan which includes an office block (1 building), a multi-purpose block (1), hostel for Long-stay Quarter (1 blocks from calculations), and hostel for short-stay Quarter (4 blocks from calculations), together with an open car park (for 20 nos. of motor vehicles). Prototypes of all the proposed hostel types are given to the candidates. The height restriction is set at +47.0mPD.

Specific to the site is the need to retain 2 mature trees within the historical park and to be well integrated with the development. Public access to the park should be always allowed.

As per Paper 6 in recent years, it is specified that the design shall comply with the building separation, street setbacks and green coverage requirements in accordance with the Sustainable Building Design (SBD) Guidelines (PNAP APP-152).

The candidates are expected to demonstrate their competence in coming up with a sensible site arrangement that generally meets the statutory requirements and the design brief.

**2. Answer Scripts**

**2.1 General**

Similar to previous years, given the ample site area, the panel appreciates a wide range of design approach in response to the design brief and the site.

The panel is satisfied with the performance standard this year. The majority of the candidates managed to produce a layout that generally complies with the relevant statutory requirements and the design brief requirements, and handle sensibly the disposition of buildings in relation to various constraints and characters of external spaces and especially the level difference within the site with minimum site formation work.

## 2.2 Fundamental Non-compliances

Despite special reminders in the Design Paper seminar, there are still a few cases of grossly under-development (mostly due to incorrect calculation of the number of blocks from the required floor areas, building height restriction and the change of level affecting the number of floors permissible), which are considered fundamental breaching of the question requirements and are not acceptable.

### **KEY INDICATORS**

The preliminary master layout plan of each answer script was carefully scrutinised by the assessment panel, which did not look for perfect design solutions and absolute compliance with the regulations, but a sensible approach and reasonable execution of site planning with a general understanding of the statutory requirements.

The following key indicators are specific to the Paper this year, which indicate the level of competence of the candidates in their sensibility, mastering of technical knowledge, understanding of statutory control, and skill of implementation:

- (a) General compliance with development parameters – maximising development potential with correct number of building blocks, compliance with building height limit and SBD requirements, particularly on building separation.
- (b) General compliance with the special design feature requirements – retaining the historical park and the preserved trees, to be well integrated with the new development.
- (c) Sensibility in handling the level change in two aspects: number of stories of buildings on the upper deck, and the Barrier Free Access between the two platforms.
- (d) General compliance with major statutory requirements – prescribed windows, EVA, ingress / egress points, etc.
- (e) Sensibility in disposition of the hostels, the office and the MPH to form spaces, minimize overlooking, and to arrange internal circulation to minimize road work.
- (f) General compliance with traffic and circulation requirements, including the adequate and sensible provision of open car park and the loading / unloading bays for the quarters as required.
- (g) Sensibility in the optimal segregation of vehicular and pedestrian circulation, demonstrated by the arrangement of internal roads and pedestrian paths, car park, drop off, and loading / unloading provisions, and access to each building.
- (H) Sensibility in arranging the buildings in relation to the central park, the pedestrian linkages across the site through the park.

### **3. WEAKNESSES**

In addition to the fundamental non-compliance described in paragraph 2.2, the following major weaknesses are observed:

#### **3.1 Non-compliance with SBD requirements**

- (a) Disposition of the long-stay / short-stay hostels / office / multi-purpose hall in cluster without proper separation between buildings, so that the Projected Façade Length (LP) exceeds 60m under SBD Guidelines.

#### **3.2 Non-compliance with prescribed window requirements**

- (a) Failure in fulfilling the prescribed window requirements for the hostels, particularly in cases of placing the buildings with rooms requiring natural lighting and ventilation.

#### **3.3 Insensible disposition**

- (a) Hostels with serious overlooking issue.
- (b) Living and working quarters with no distinct groupings and interfering with each other.
- (c) Non-user-friendly / unusable / non-accessible leftover space between blocks.

#### **3.4 Non-compliance with special design feature requirements**

- (a) Awkward planning to overcome the level difference and no consideration of change in level, resulting in poor and excessive site formation.
- (b) Under-provided and unrealistic ramp (too steep and too short) to connect the 2 site platforms.
- (c) Constrained open space around the existing park for proper enjoyment/ appreciation of the features.
- (d) The car park is too spread out and located far away from hostels and office.
- (E) Under provision of the exhibition and presentation plaza in front of Multi-purpose hall.

#### **3.5 Insensible internal road planning/ carparking**

- (a) Vehicular access not complying with XYZ points (e.g. introduction of additional ingress/egress points beyond the permitted location, additional lay-bys along the street).

- (b) Grossly over-provided internal roads leading to fragmented open space, excessive pedestrian crossings, and buildings surrounded by rounds with disjointing external spaces within the development.
- (c) Under-provision of internal roads leading to inadequate drop off and loading / unloading provisions for each block.
- (d) Car parking spaces and loading / unloading bays provided directly from roundabouts, or even accessed from external roads. Poor provision of turning and reversing in carpark and loading/unloading bays.

### **3.6 Non-compliance with EVA requirements**

- (a) Substandard hammerheads and turning circles for fire fighting vehicles.
- (b) Inadequate coverage of building facades for EVA.
- (c) Excessive internal roads for EVA at the expense of open space where the buildings can be easily reached from the public roads.

## **4. RECOMMENDATIONS TO CANDIDATES**

For future candidates, the paper looks for sensible disposition and relationship between buildings, between buildings and site context, not only in terms of statutory requirements but also in terms of spatial consideration, privacy, circulation, convenience and orientation. Candidates should ensure that the brief is fulfilled by achieving the correct development potential within the parameters of height restriction and site constraints. Do look out for any special requirements and take those into consideration. Try to avoid misrepresentation of areas and dimensions, although the examiners would not be pedantic to go after exact figures and minute details on alignment.

Candidates would benefit enormously to avoid the weaknesses listed above and should always be paying attention to the question as it will change from year to year.

## **THE PAPER**

This year's Paper aims to examine the candidates' competence in the design of a **Hub for Co-work and Gallery**. It is to promote start-up companies by providing serviced working space at low rent. It is also aimed at offering flexible event space to generate synergy among the creative individuals groups and the communities. Like previous paper 7 in recent years, the design task is to create a sensible solution for the hub to be shared among different users. The candidates have to show sensitivity to segregate between the office users and public shared functions and circulations. Overall they need to show their ability to integrate different functional requirements within the building.

A particular emphasis is placed on integration of building services provision to the space planning. Compared to questions set in previous years, there is a more elaborated schedule of accommodation with Electrical and Mechanical rooms to be allocated both on typical floors and ground levels. At the same time, a site with gradient is chosen to test out candidates' design ability in the context of less straight forward planning challenge.

The design brief calls for a schematic design comprises the following principal elements and consideration:

- Segregation of different group of users among the private, shared programme and amenities that open to public
- Strategic planning of building service elements in terms of servicibility and accessibility.
- Stacking of functional / service space to resolve level difference on site.
- Sensitive planning of lower zone to address accesses from upper and lower street as well as side street
- Appropriate planning of other ancillary facilities including back of house, vehicular drop off, loading/unloading bay and carparking space within site.

Submission requirements include Site Plans, Building Layout Plans and Building Sections at 1:200 scale. 3-Dimensional Illustrations or Detailed Calculations are not compulsory.

## **THE OVERALL OBSERVATIONS**

The Subject Panel agreed that the design brief has posted new challenge to candidates. They are expected to tackle a more elaborated Building Service requirement with respective spatial relationship. A sloping site has also served a good indicator to differentiate more sensible solutions from the rest. The panel is pleased to see some good planning with upper and lower ground floors with reasonable vehicular access and disposition of major mechanical plant rooms working with the level difference.

At the same time, segregation of more private from public function with different schedule of accommodation and access has been practised in previous years. The Panel is satisfied with most solutions which can demonstrate well to response to the challenge reasonably, showing comprehensive understanding of spatial and functional relationship. However, with all the design parameters to be resolved within the limited time, answers scripts can hardly be free from flaws. It is understandable.

## **KEY INDICATORS**

The detailed layout of each answer scripts was scrutinized carefully and jointly by the Assessment Panel. Rather than a totally innovative and ground breaking ideas on the architectural design, the Panel are looking for a sensible design solution that could meet the design brief, and in general compliance with the building regulations.

The Panel made the assessment based on the following key indicators that can reveal the competence of the candidates in their design sensibility, level of technical knowledge and skill of implementation:

- General compliance with development parameters – mainly on building height, plot ratio and site coverage requirements;
- General compliance with major statutory requirements – including Fire Escape and Emergency Vehicular Access;
- General compliance with specific site constraints and requirements including provision of separate entrances;
- Sensibility in vehicular access, parking and loading bay facilities;
- Sensibility in arrangement of reasonably segregated functions and circulations between the office users and public shared facilities;
- Sensibility in vertical circulation connecting all floors including lower and upper ground;
- Sensibility in the design of floor-to-floor height, structural system;
- Sensibility in building services planning and its functional relationship;

## **Practising Hand Drafting**

It is key to familiarize with similar requirements in the Papers of the past years. Most of the candidates managed to incorporate the segregations of entrances and circulations between the elderly exclusive and public shared facilities as required under the brief. Although general improvement in draftsmanship and legibility of the drawings are recognized by the Panel, there is still issue of drawing scale in building components, e.g. unproportionated lift or staircases or grossly oversized corridor or undesignated spaces. Future candidates are encouraged for more extensive practice on their hand drawing skills, and attention to be paid to proper line weight and established drawing conventions to improve the drawings' clarity with minimal coloring.

## **Time Management**

It is not uncommon to observe there are answer scripts that started with a well-planned and detailly drawn Ground Floor Plan. However, incomplete upper floor plans or sections, had failed to demonstrate an overall design solution. The phenomenon appears to the Panel that is mainly caused by the candidates' poor time management during the examination. Future candidates are encouraged to practice more on the past papers, have a clear planning on the work sequence and properly allocate time for understanding of the brief, sketching on bubble diagrams, working on preliminary layout, drafting of final drawings, and finally, proof checking.

## **Clear Circulation Planning with Means of Escape**

It is observed that, in some solutions, escape staircases are over provided due to complicated circulation pattern within the building. This becomes a design issue that shows poor efficiency and application of building elements. A comprehensive planning of the building profile with the allocation of escape staircases at the most appropriate and efficient locations, instead of an ad-hoc afterthought, would benefit subsequent detailed planning of the functional space. Candidates are encouraged to study more on real life examples in terms of an effective planning.

## **Clear Structural Integration and Functional Planning**

Structural grids should be clear and integrated with functional space. Large spaces such as gallery / multipurpose hall are expected to be column free. The vertical arrangement of long span and short span functions between floors also demands a greater sensibility for a more cost-effective solution to minimize structural transfer. This has been a consistent issue through many years that the candidates are encouraged by attempt their best understanding of structural integration accordingly.

## **Sensible Back of House and Serving Route Planning**

In most past Papers, apart from the principal functional uses, there would be requirements in the design brief to incorporate various back of house ancillary area as well as loading / unloading facilities. A clear understanding and demonstration on the back of house routing starting from the loading vehicle to services lift, from services corridor to respective functional spaces etc. are equally important to the planning of front-of-house in a sensible design.

### **RECOMMENDATION TO CANDIDATES**

The design Panel is generally pleased with variety of solutions formulated from different understanding of the design problem. Some suggestions are listed below to draw candidates' attention.

Paper 7 Subject Panel Chair

**HKIA / ARB Professional Assessment 2019  
Papers 8 Case Study  
Examiners' Report**

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**STRUCTURE OF PAPER**

Candidate has to provide a one-page synopsis and go on to complete a 20+20-page report. The Professional Assessment Handbook details the topics requirement and report format. The passing mark is set at 50%.

**ASSESSMENT OBSERVATIONS**

144 out of 171 candidates passed the Paper this year. The passing rate is 84%. Four candidates received zero mark due to plagiarism and will not be allowed to take PA2020 – Paper 8.

Although the same project may be studied, other than for re-sitting candidates, the special topic has to be different from the one used in previous submissions.

It is generally agreed that the case study remains a useful tool through which candidates can learn about the essential elements of project administration, even though the projects they are handling in the office may not give them sufficient exposure to the entire range of practical issues. Passing rates are usually high and it is not seen as a major source of anxiety for candidates.

**RECOMMENDATIONS TO CANDIDATES**

Carefully study and analyze available information on the project and talk to the project team for a thorough understanding, then write the report in your own words to cover what has been learned. High emphasis is put on candidate's own appraisal of the various issues and problems relating to the project. Special topic study gives candidates opportunity to research in depth a topic of interest. Candidate may continue to use previous reports as format and contents template but have to refrain from copying multiple sentences and paragraphs, which will be readily detected by the plagiarism software.

Paper 8 Subject Panel Chair

## **STRUCTURE OF PAPER**

This paper is a 30-minute interview conducted primarily in English and each candidate is interviewed by a panel consists of three interviewers. This is the eighth year that, with the Interviewer Panel Chairperson's permission the new policy on using Cantonese for technical terms and for supplementary purpose is implemented.

This is also the eighth year that the candidate's Case Study report is being tested in the Professional Interview. Candidates were reminded that their Case Study reports would be used as referencing material in the interview. Candidates may choose projects not handled by themselves and Interviewers were reminded to cross reference with the candidates' logbooks.

Interviewers were advised to make sure the candidates have digested the following when compiling their Case Study reports:

- Statutory Control
- Cost Control
- Time Control
- Safety
- Quality Control
- Design Quality Control
- Building Contracts

Candidates' professional maturity and adequacy of practical experience as recorded in the Logbook were assessed by the interviewers. Questions might cover topics related to Buildings Ordinance and Regulations, other allied Ordinances and Codes of Practice, construction knowledge, Building Contract and Contract Administration and Professional Ethics. Candidates' confidence in answering questions was also assessed for by Interviewers.

## **ASSESSMENT OBSERVATIONS**

Among the 134 candidates, 103 candidates (representing 77%) passed the Paper in this June 2020 attempt (for PA2019), which is slightly lower than the attempt in March 2019 (80%).

From the report of Interviewers on failed candidates, most candidates were lacking knowledge in Building Contract and Buildings Ordinance and had failed to demonstrate to the interviewers their competency to work as an Architect. Other reasons cited include lacking confidence and general knowledge; and were not well prepared for the Interview. These weaknesses might be attributed to their lack of practical experience in local projects.

## **RECOMMENDATIONS TO CANDIDATES**

- To enhance his/her understanding of the project selected for the case study, the candidates are recommended to consult their advisor at closer intervals to discuss/understand the rationale behind the problems and solutions as revealed in the course of the case study instead of reporting to his/her advisor what they have been done on quarterly basis.
- As reflected in the summary, one of the main reasons for failure was attributed to the lack of practical construction and contract administration experience. It might be a result of the reducing number of local projects in recent years. Candidates are strongly advised to look at their job exposure, in particular the opportunity of getting involved in local projects before they commit or engage to the practice during their internship period.

Professional Interview Subject Panel Chair