

試験科目名
Subject

科目名 交通計画・都市計画

(英文) Transportation and Urban Planning

受験番号
Applicant
Number

M

令和元年度 広島大学大学院国際協力研究科 (博士課程前期) 入学試験問題 (10月) 英語
Entrance Examination for Master's Programs (October 2019 Enrollment), IDEC

令和2年度 広島大学大学院国際協力研究科 (博士課程前期) 入学試験問題 (4月) 英語
Entrance Examination for Master's Programs (April 2020 Enrollment), IDEC

注意事項

日本語または英語で解答してもよい。

<Notice>

1) You can answer either in Japanese or English.

Select and answer two out of the following Questions 1 – 4.

Question 1

Answer the following questions, supposing the user equilibrium principle always holds.

1. Suppose that there are two roads (road A and road B), where the total traffic volume is 3000 pcu/hr from origin (O) to destination (D). The link performance functions of these roads are given as shown in Fig. 1 (t_A and t_B indicate travel time, and x_A and x_B refer to traffic volume, on roads A and B, respectively). Then, calculate the expected travel time from O to D.

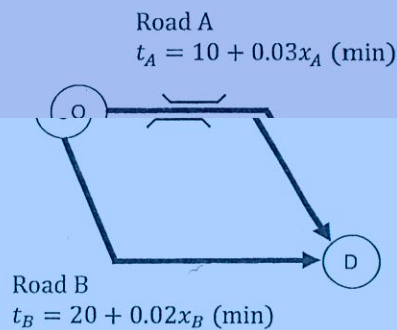


Fig.1 Road network

The link performance function of road A is shown in Fig.2(0) before a natural disaster. However, it changes into a different shape after the disaster. Choose the most proper link performance function of damaged road A after the disaster out of options Fig.2(a) to Fig.2(d).

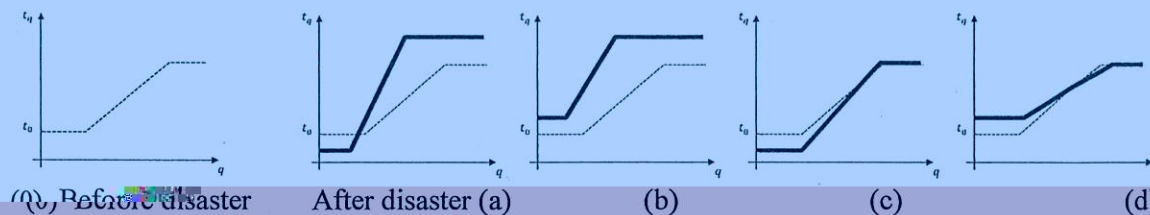


Fig.2 Link performance functions before and after disaster

[t_0 , t_0' : travel time; q : traffic volume]

3. Suppose that a natural disaster causes intolerable damage on road A. Total volumes of both roads are reduced to 2000 pcu/hr but travel time is increased to 58 min during the disaster recovery period. And the link performance function of road A becomes $t_A = 30 + \beta x_A$. Obtain the parameter β of the new link performance function of road A.

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Question 2

It is necessary to correctly understand people's travel behaviors for resolving transportation issues. Please answer the following questions.

1. First, name two types of travel behavior surveys. Next, briefly explain each of them and describe the shortcoming(s) of each and the corresponding method(s) to overcome the shortcoming(s).
2. Discrete choice models have been widely applied in travel behavior analysis. Name two types of discrete choice models, explain the advantages and disadvantages for each, and describe how to overcome the disadvantages.

Subject

科目名 都市・建築環境学

(英文) Urban and Building Environment

受験番号
Applicant
Number

M

令和元年度 広島大学大学院国際協力研究科 (博士課程前期) 入学試験問題 (10月入学)

Entrance Examination for Master's Programs (October 2019 Enrollment), IDEC

令和元年度 広島大学大学院国際協力研究科 (博士課程前期) 入学試験問題 (4月入学)

Entrance Examination for Master's Programs (April 2020 Enrollment), IDEC

<注意事項>

1) 日本語または英語のどちらかで解答してもよい。

<Notice>

1) You can answer either in Japanese or English.

問題 [1] 建築設備に関する次の4項目(a)~(d)から2項目を選び、説明せよ。

Question [1] Choose two from the following four items (a) to (d) concerned with building equipment and explain each one.

(a) 排水システムにおける通気管

Vent pipe in drainage system

(b) パッシブソーラーハウス

Passive solar house

(c) 氷蓄熱システム

Ice thermal storage system

(d) 第1~3種機械換気方式

Class 1 to 3 mechanical ventilation systems

問題 [2] 建築分野における水資源の有効利用に関する質問(a)、(b)に答えよ。

Question [2] Answer the following questions (a) and (b) concerned with the utilization of water resources in the field of architecture.

(a) 水資源の有効利用を促すために、どのような対策があるか説明せよ。

Explain the measures to promote the utilization of water resources.

(b) 水資源の有効利用を促すために、どのような条件が求められるか説明せよ。

Explain the conditions to be considered to be implemented in the field of architecture to the design of water resources.

試験科目名 Subject
科目名 植物機能科学 (英文) Functional Plant Sciences

受験番号 Applicant Number	M
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令和元年度 広島大学大学院国際協力研究科（博士課程前期）入学試験問題（10月7日考）
 Entrance Examination for Master's Programs (October 2019 Enrollment) HDUC
 令和元年度 広島大学大学院国際協力研究科（博士課程前期）入学試験問題（10月7日考）
 Entrance Examination for Master's Programs (April 2020 Enrollment) HDUC

22. Explain the attachments of plant allelopathy and their effects in biological environment of weeds and pests.

問 22 雑草や害虫の生物学的環境における植物の化感作用の付随効果とその生物学的環境における雑草や害虫への影響を説明せよ。

試 驗 科 目 名
Subject

科目名 生態学

(英文) Ecology

受験番号
Applicant
Number

M

Approved Candidate for Master's Programme in Global Studies (Environmental Studies)
承認された大学院生 (グローバル研究修士課程 (環境学))
Approved Candidate for Master's Programme (Global Studies) (Environmental Studies)

受験要項

0. 日本語文法試験の可否を教えてください。

受験要項

1. 試験科目は以下のとおりです。

科目 1. 自然言語学 (A) 文法問題 (50%)

(1) 日本語文法 (25%)

(2) 日本語の歴史 (25%)

(3) 日本語の方言 (25%)

Question 1. Identify the following terms.

(1) 自然言語学 (Natural Language)

(2) 方言学 (Dialectology)

(3) 方言 (Dialect)

問答。非就労生は来年度以降の入学を希望する場合は、以下の入学要項を必ず確認してください。
問答。非就労生は来年度以降の入学を希望する場合は、以下の入学要項を必ず確認してください。

Question 2. Local ecosystems have often been formed not only by natural surroundings but also by human activities there. Give one example of ecosystems that have been formed by traditional human activities in Japan. Describe the relationship between the ecosystem and the surrounding.