APPENDICES

APPENDIX I : ENGLISH FOR ARCHITECTURE

TABLE OF CONTENTS

FOR THE TEACHER

These materials can be used by the English teachers to teach reading comprehension for Architecture students. The writer assumes that the students have already mastered 2000 words and the time allotment for presenting each lesson is 100 minutes.

The General Instructional Objectives of these materials are:

1. The students are able to become independent readers of English textbooks.
2. The students are able to overcome problems that appear in reading English literature.
3. The students are able to answer questions of English textbooks.
4. The students are able to conclude the main idea of English textbooks.

The Specific Instructional Objectives of these materials are:

1. Given a text, the students will be able to identify the meaning of words correctly.
2. Given a text, the students will be able to analyze sentences correctly.
3. Given a text, the students will be able to answer

questions correctly.

4. Given an illustration, the students will be able to interpret correctly.

The contents and syllabus are:

1. These materials deal with reading consisting of 11 passages about Architectural Design, 3 passages about Building Structures, and 2 passages about Environmental Science.
2. The syllabus is organized around topics, grammar, and vocabulary needed for the students, in order that they can understand reading passages thoroughly.
3. The focus of the reading passages is on the reading comprehension, grammar and vocabulary. A variety of activities can be applied in doing the exercises.

The methodology that can be used with these materials is:

1. In pre-reading, the teacher can ask some background knowledge before going to the passage.
2. In whilst-reading, the teacher can discuss with the students the content of the passage. Besides that, the teacher can also discuss the grammar and vocabulary related to the exercises. In the disscussion, the teacher should give the opportunity for the students to be active.
3. In post-reading, the teacher can ask some questions to

check the understanding of the students about the reading passage.

4. The teacher can ask the students to do the exercises individually. However, if there is not enough time to do the exercises individually, the teacher can ask the students to do in pair to save the time.
5. The teacher can ask the students to go to the library to find out the meaning of certain words related to the vocabulary exercises. This activity is as an variation, in order that the students will not get bored.
6. In the discussion of the exercises, the teacher can do it orally. However, the teacher can also ask the students to write the answers of the exercises on the blackboard, if the teacher feels necessary.

FOR THE STUDENTS

These materials are for the students of Architecture Department who have already mastered 2000 words, but they still cannot master the reading skill.

These materials teaches you how to understand a reading passage thoroughly. They give you practice in reading many kinds of topics. 11 passages are about Architectural Design; 3 passages are about Building Structures; 2 passages are about Environmental Science. These materials will help you to improve your reading skill. Besides that, you will learn about the grammar and vocabulary to support your understanding of a reading passage.

To learn the materials successfully, you must fully concentrate on the reading passage and your disscussion with your teacher, and you also have to think critically. Do not be shy to ask any kinds of questions to your teacher about parts of the reading passage that you do not understand.

LESSON 1. PUBLIC LIBRARIES

(1) Space requirements vary considerably from job to job, but the International Federation of Library Associations has worked out averages based on actual libraries. (2) These are given in table I.

Table I Public library serving population of 100 000

Function*	Floor area m^2	Comment
Adult lending	750	Plus 10% if exhibition area needed
Adult reference		
Book stock	200	Plus 20% overall for staff workrooms and offices
Seating	375	
Periodicals	100	
Children's library	350	
Stack	100	Plus 20% overall for circulation area
Staff rooms	180	
Total	2945	

* (3)These areas exclude music library, audio-visual material and administrative offices if the library is headquarters for branches of mobile libraries, etc. (source: Tutt, Patricia and David Adler. 1979. New Metric Handbook, London, The Architectural Press).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. On what basis are the data made by the International Federation of Library Associations?
   (a) By assumption.
   (b) By imagination.
   (c) By existing libraries.
   (d) By experiences in designing libraries.
2. How much space is needed for adult lending, if the space for showing new books must exist?
   (a) 750 m^2.
   (b) 825 m^2.
   (c) 900 m^2.
   (d) 975 m^2.
3. How much area is for staff workrooms and offices?
   (a) 67,5 m^2.
   (b) 135 m^2.
   (c) 675 m^2.
   (d) 810 m^2.
4. How much area is needed for people to sit and to read the books?
   (a) 100 m^2.
   (b) 200 m^2.
   (c) 375 m^2.
   (d) 750 m^2.
5. How much area is for magazines, newspaper, journals, etc?
   (a) 100 m^2.
   (b) 200 m^2.
   (c) 375 m^2.
   (d) 750 m^2.
6. How much is the total area for adult reference including staff workrooms and offices?
   (a) 675 m^2.
   (b) 742,5 m^2.
   (c) 810 m^2.
   (d) 877,5 m^2.

7. How much area is for circulation area?

   (a) 63 m^2.
   (c) 180 m^2.
   (b) 126 m^2.
   (d) 630 m^2.

8. How much is the total area for children's library excluding the circulation area?

   (a) 630 m^2.
   (c) 756 m^2.
   (b) 693 m^2.
   (d) 819 m^2.

9. Can you determine the area of audio-visual material based on the table? Why?

   (a) Yes, I can because I can make an assumption.
   (b) Yes, I can because I can imagine the size of audio visual material.
   (c) No, I cannot because a public library usually does not have audio visual material.
   (d) No, I cannot because the table does not mention it.

10. If you are asked to design a children library complete with circulation area for serving population of 50.000 people, how big will your library be?

    (a) 315 m^2.
    (c) 630 m^2.
    (b) 378 m^2.
    (d) 756 m^2.

II. VOCABULARY

Find 10 kinds of building types in the puzzle. You may find the words vertically and horizontally. After that, find the definition of the words in a dictionary.

O	F	F	I	C	E	L	L	I	A	R
P	E	E	R	H	I	R	I	M	L	O
A	R	O	K	U	K	O	B	E	L	O
S	U	P	E	R	M	A	R	K	E	T
U	D	I	G	C	A	B	A	I	T	H
S	U	M	O	H	U	M	R	K	U	E
E	S	C	H	O	O	L	Y	M	O	A
O	H	P	O	G	B	O	A	O	G	T
B	O	P	U	E	N	G	B	T	R	E
A	P	D	S	A	G	A	E	E	A	R
P	O	T	E	H	O	T	E	L	B	E

LESSON 2. SCHOOLS

(1) Schools are for learning, which involves much more than the passing on of information from teachers to students. (2) In schools, children learn how to live in groups other than families, and their introduction into social life should happen in a human, warm, and natural environment. (3) Many schools that are organized efficiently in terms of teaching, show few of the qualities above.

(4) The architect must define the program in collaboration with the school board and also with various community groups, because many schools have adult evening classes, public performances, and meetings, and school recreational facilities may serve the whole community. (5) In addition to the conventional approach, many schools use team teaching and other alternatives, which all require increased space and greater flexibility.

(6) The optimum classroom capacity depends on the grade and the subject, ranging from 20 pupils in first grade to an art class in high school with over 50 students. (7) Typical floor areas of classrooms are between 700 and 1100 square feet. (8) Noise aversion is a major factor in the arrangement of classrooms, but the single most important consideration in school design is life safety. (9) A school building requires higher safety standards than do most other projects.

(10) Since most schools today are experimenting with new ways of teaching and with creative play activities, flexibility has become a very important design factor. (11) The typical classroom unit often gives way to organization pattern of small groups that change according to the activities of the class. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the topic of the passage?
   (a) planning a school.
   (b) planning a classroom.
   (c) teaching.
   (d) flexibility.
2. What is the main idea of the passage?
   (a) schools are for learning.
   (b) the classroom capacity depends on the grade and the subject.
   (c) several things must be considered in planning a school.
   (d) flexibility is a very important design factor.
3. Why are schools not for passing on of information only?
   (a) because children also learn how to live in families.
   (b) because children also learn how to live in groups.

(c) because schools are organized in terms of teaching.

(d) because schools also have adult evening classes.

4. With whom must the architect work in the programming?

(a) the school board and various community groups.

(b) the children.

(c) the adults.

(d) the teachers.

5. If you plan a classroom for elementary school, how many students is the maximum capacity for a classroom?

(a) around 11 students.
(b) around 22 students.
(c) around 33 students.
(d) over 50 students.

6. Which one below is the most important factor in designing a school?

(a) noise aversion.

(b) life safety.

(c) flexibility.

(d) the optimum classroom capacity.

7. In sentence (2), "their" refers to:

(a) children.
(b) groups.
(c) families.
(d) schools.

8. In sentence (2), a word signifying addition is:

(a) in.
(b) how.
(c) than.
(d) and.

9. In sentence (8), a word signifying contrast is:

(a) in.
(c) but.

(b) of.

(d) is.

10. In sentence (10), a word signifying cause-effect relationship is:

(a) since.

(c) and.

(b) with.

(d) of.

II. GRAMMAR

Underline the subjects and subject complements that you find in the passage.

LESSON 3. SEPTIC TANKS

(1) Local regulations will probably govern the minimum size of the septic tank. (2) One rule commonly used is to figure that the storage capacity of the tank should equal the number of gallons of sewage entering the tank in a 24 hour period. (3) At the rate of 100 gallons per person per day, a septic tank for a four person household (or a two bedroom home) should have a minimum capacity of 400 gallons storage. (4) If a garbage disposer is used, the capacity should be increased 50 percent. (From 400 to 600 gallons for a four person household.) (5) In actual practice, the minimum size of any septic tank should be 1000 gallons.

(6) Septic tanks function by a combination of bacterial action and gases. (7) Solids entering the tank drop to the bottom. (8) Bacteria and gases cause decomposition to take place, breaking down the solids into liquids and in the course of this process the indissoluble solids, or sludge, settles to the bottom of the tank. (9) Decomposition in an active tank takes about 24 hours. (10) The sludge builds up on the bottom of the tank so that periodically (perhaps once a year or only once in ten years, depending on usage) the tank must be cleaned or pumped out. (11) In the cleaning or pumping process, only the sludge on the bottom of the tank should be removed. (12) The crust, formed on the water level at the top of the

tank, should not be disturbed. (13) The only exception to this rule is if the crust has become coated with grease and the bacterial action of the tank thus destroyed. (14) If this should happen, the crust on top will have to be removed.

(15) Bacterial action will begin again when the top is placed on the tank and the tank sealed. (16) Special compounds can be purchased to hasten the resumption of bacterial action but these compounds are rarely, if ever, really needed.

(17) The top of the septic tank should be located at a minimum depth of 12 inches below ground level. (18) The actual depth will probably be somewhat greater due to the depth of the sewer entering the septic tank. (19) The septic tank must also be located at least 75 feet away from any well and downhill so that all drainage is away from the well. (20) Local regulation must be followed as to placement of the septic tank. (source: Connell, Charles Mc. 1976. Home Plumbing Handbook, Indianapolis, Theodore Audel & Co).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the topic of the passage?
   (a) the design of a septic tank.
   (b) the capacity of a septic tank.
   (c) the process inside a septic tank.

(d) the location of a septic tank.

2. What should equal to the volume of sewage entering the tank?

(a) the solids.

(b) the bacteria and gases.

(c) the location of the tank.

(d) the capacity of the tank.

3. How many gallons of sewage are for a person per day?

(a) 100 gallons. (c) 600 gallons.

(b) 400 gallons. (d) 1000 gallons.

4. What is the minimum size of a septic tank?

(a) 100 gallons. (c) 600 gallons.

(b) 400 gallons. (d) 1000 gallons.

5. What causes the solids to become liquids?

(a) the solids themselves.

(b) the bacteria and gases.

(c) the location of the tank.

(d) the capacity of the tank.

6. How long does the process of decomposition take?

(a) in a day. (c) in ten years.

(b) in a year. (d) a, b, and c.

7. When must the tank be cleaned?

(a) in a day. (c) in ten years.

(b) in a year. (d) b and c.

8. When will the crust on top have to be removed?

(a) when the solids become liquids.

(b) when the crust has become coated with grease.

(c) when the bacterial action of the tank is destroyed.

(d) b and c.

9. How deep should the top of the septic tank be located?

(a) 12 inches below ground level.

(b) 12 inches above ground level.

(c) less than 12 inches below ground level.

(d) b and c.

10. How far must a septic tank be located from any well?

(a) 12 feet away.

(b) 24 feet away.

(c) 80 feet away.

(d) b and c.

II. GRAMMAR

Underline direct objects, indirect objects, and objects of preposition that you find in the passage.

LESSON 4. GIFT SHOPS

(1) The problem in designing gift shops is complicated by the variety and number of objects which must be displayed. (2) Merchandise is seldom bought without seeing and handling either the actual object or a sample. (3) Cleaning and arranging such a varied, fragile stock is a serious maintenance problem.

(4) Departmentalizing the stock is valuable but difficult to achieve, and is ordinarily accomplished differently for each job, depending on the general type of merchandise. (5) Objects may be arranged according to material, texture, and color; or according to function; or in mixed groupings coordinated according to probable use. (6) Both classified and mixed groupings are considered essential. (7) Times and seasons for various types of merchandise must be considered and display space provided to accomodate these changes in positions and importance relative to the regular stock.

(8) Shelving is required for all small objects, such as glassware, poterry, silver, etc. (9) Sizes range from 8 to 12 and even 20 in. in width; below counter height, shelf or stock space is often enclosed to protect objects which might be damaged by dust. (10) Sales counters are usually eliminated; although, again, for small, perishable articles, glass show cases may be advisable. (11) Closed displays with concealed soffit lighting have been

found valuable for such objects of special value or fragility, articles which deteriorate if left in the open (leather, silver, plaster, unglazed terra cotta). (12) Sale of gift merchandise implies the writing of cards and notes for enclosure, and of checks. (12) One or more desks should be provided for customers for these purposes. (source: Chiara, Joseph De and John Hancock Callender. 1990. Time-Saver Standards for Building Types, Singapore, McGraw-Hill Publishing Company).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the main idea of the passage?
   (a) Designing gift shops is very complicated.
   (b) Merchandise is seldom bought without seeing and handling.
   (c) Departmentalizing the stock is valuable.
   (d) Shelving is required for all small objects.
2. Why is fragile stock a serious maintenance problem?
   (a) Because it is easily dirty.
   (b) Because it is very expensive.
   (c) Because it is easily broken.
   (d) Because it is dangerous.
3. How may objects be arranged?
   (a) According to the material, texture, and color.
   (b) According to the function.
   (c) According to the use.
   (d) a, b, and c.

4. Which one below does not belong to fragile thing?

   (a) glassware.
   (b) pottery.
   (c) silver.
   (d) a, b, and c.

5. Why is shelving required for all small objects?

   (a) Because the objects cannot be easily broken.
   (b) Because the objects can be showed to customers efficiently.
   (c) Because the objects can be looked very beautiful.
   (d) Because the objects will be sold out quickly.

6. Why is the stock space often enclosed?

   (a) Because it is used to keep objects clean.
   (b) Because it is used to protect objects from theft.
   (c) Because it is used to place objects secretly.
   (d) a,b, and c.

7. Why is glass show cases prefer to sales counters?

   (a) Because sales counters cannot show objects efficiently.
   (b) Because sales counters are difficult to make.
   (c) Because glass show cases are easy to make.
   (d) Because glass show cases can be easily moved.

8. What kind of displays have been found precious for objects of special value?

   (a) closed displays on a sales counter.
   (b) closed displays with lighting.
   (c) closed displays on a shelf.
   (d) a,b, and c.

9. Which article will be deteriorate if left in the

open?

(a) leather.
(b) silver.
(c) unglazed terra cotta.
(d) a,b, and c.

10. Why should desks be provided for customers?

(a) Because the customers need to write cards.
(b) Because the customers need to take a rest.
(c) Because the customers need to pay attention to small objects.
(d) a,b, and c.

II. VOCABULARY

Choose the correct words from the brackets to fill in the blanks.

Most gift shop window backs are open, or (1)..... (partially, partial) so, in order to give views through into the shop. (2)..... (Lighting, Lighted) interior displays (3)..... (visible, vision) through (4)..... (opening, open) backs often attract (5)..... (customers, customes). (6)..... (Flexible, Flexibility) is sometimes demanded; that is, a window with a back which may be open or (7)..... (closed, close) at will. (8)..... (Lighting, Lighted) recessed shelving in the window side or backs, or on (9)..... (adjustable, adjust) brackets, exploits (10)..... (vary, varied) display levels. (source: Chiara, Joseph De and John Hancock Callender. 1990. Time-Saver Standards for Building Types, Singapore, McGraw-Hill Publishing Company).

LESSON 5. LAY-OUT OF DEPARTMENT STORES, SUPERMARKETS AND SHOPS RELATED TO METHODS OR SELLING

(1) Selling methods control shop and department layout and fittings, and are basic to the internal shop design. (2) The methods can be classified as follows: personal service, self-selection and self service.

1. (3)*Personal service.* (4) Customers are served by an assistant, sometimes from behind a counter. (5) At completion of sale the assistant takes the cash to cash point and may give a receipt and pack goods, such as jewellery or cameras and exclusive salons or small specialist boutiques, as well as some types of food shop (delicatessen, cooked meats, etc).

2. (6) *Self-selection.* (7) Customer may handle and select goods and take them to cash point for payment or wrapping. (8) There is some staff assistance available. (9) This system is general in variety stores and many departments in department stores, as well as specialist shops.

3. (10) *Self-service.* (11) Customer walks round store, filling a basket or trolley and takes goods to check-out point for payment and wrapping. (12) 'In'and'Out' entrances are separated. (13) This is the principle of supermarket and hypermarket trading and is basically

suited to convenience goods.

(14) In personal service shops a customer is influenced by the advice and sales technique of the assistant and, although display is necessary, all available merchandise need not be on display. (15) In self-selection and self-service shops sales talk is replaced by display technique. (16) In self-selection shops customers must be able to identify and handle the available merchandise (and can often try on clothing in fitting rooms) so merchandise must be grouped and laid out for this purpose, flexibility being of maximum importance.

(17) In self-service shops (and, also in self-selection) the internal shop layout and arrangement of entrances and exits must encourage customers to follow a continuous route as possible from entrance to exit, exposed to the maximum amount of display. (18) This must be achieved without monotony congestion and with as impression spaciousness, which will depend on design and disposition of circulation aisles and of sectional planning. (source: Mills, Edward D. 1985. Planning-The Architects' Handbook, London, Butterworths).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the main idea of the passage?

(a) The internal shop design is influenced by selling

methods.

(b) The internal shop design is influenced by the service.

(c) The internal shop design is influenced by the customers.

(d) a, b, and c.

2. What is the major supporting detail of the passage?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

3. In which method is a shop assistant not needed?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

4. Which method is suitable for a cosmetics shop?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

5. Which method is suitable for a book shop?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

6. Which method is suitable for a shoe shop?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

7. In which method is sales talk very important?

(a) personal service. (c) self-service.

(b) self-selection. (d) a, b, and c.

8. In which method is display technique very important?

(a) personal service. (c) self-service.

(b) self selection. (d) a, b, and c.

9. In self-selection method, what factor is the most important?

   (a) the grouping of merchandise.

   (b) the lay out.

   (c) the flexibility

   (d) a, b, and c.

10. What does impression of spaciousness depend on?

   (a) design.

   (b) disposition of circulation.

   (c) disposition of sectional planning.

   (d) a, b, and c.

II. GRAMMAR

Underline the personal pronouns, indefinite pronouns, demonstrative pronouns, relative pronouns that you find in the passage

LESSON 6. WINDOWS IN BUILDINGS

(1) Windows fulfill many functions in buildings, such as providing contact with the outdoors (visual and auditory), views to attrative scenery (when available), natural ventilation, and daylighting. (2) In addition they can serve as elements in passive solar heating and cooling systems.

(3)*Contact with the Outdoors.* (4) There is a common psychological need to be aware of what is going on outdoors: changes in weather, sunlight and passing clouds, variability and changes in surrounding vegetation (foliage and flowers), "information" on activities of people outside the building, and so on.

(5) When the location of the building provides views to attractive scenery, either natural such as mountains, valleys, and waterfronts, or urban scenery, such as parks, attractive buildings, and streets, etc., the windows provide the ability to view these scenes. (6) Sometimes, of course, there is also the need to shut out the outdoor environment: for privacy, to avoid noise, exclude daylight, etc. (7) Thus windows, especially when openable, are the "natural" building elements which provide the contact with the outdoors and its control.

(8) *Natural Ventilation*. (9) Windows and doors leading to private outdoor areas such as porches are the building element by which natural ventilation is possible. (10) Such ventilation is needed first of all for health reasons, to maintain a given indoor air quality in terms of odors, gases exhaled by people and emitted from materials, and in some cases also radioactive radon.

(11) Ventilation is also essential during warm and hot seasons for thermal comfort, especially in humid regions where it may be desired during the whole day. (12) Also in hot, dry regions natural ventilation is very desirable for direct physiological comfort during the evening and night hours. (13) In addition to the direct sensory effect on human comfort, ventilation during the evening and night hours is needed in hot dry regions to hasten the cooling of the building's interior. (15) The location, size, and design details of the windows have decisive effects on their effectiveness in securing good ventilation conditions for comfort and for the cooling of the building's structure. (source: Cowan, Henry J. 1991. Handbook of Architectural Technology, New York, Van Nostrand Reinhold).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the topic of the passage?

   (a) The function of the window.

(b) The contact with the outdoors.

(c) The natural ventilation.

(d) The windows having decisive effects.

2. What is the function of the windows?

(a) contact with the outdoors.

(b) views to scenery.

(c) natural ventilation.

(d) a, b, and c.

3. Why is it said that the windows can serve as elements in passive solar heating?

(a) Because they are made of wood.

(b) Because they can provide solar heating to the interior.

(c) Because they are made of aluminium.

(d) Because they are the sources of solar heating.

4. Based on the text, what may happen on outdoors?

(a) It may be dark in the house.

(b) It may be raining outside the house.

(c) It may be clean in the living room.

(d) a, b, and c.

5. What belongs to "information" in sentence (4)?

(a) people walking on the trotoar.

(b) people chatting in the office.

(c) people eating in the restaurant.

(d) a, b, and c.

6. What belongs to "these scenes" in sentence (5)?

(a) hills.

(b) a water-fall.

(c) mountains.

(d) a, b, and c.

7. Why are the windows sometimes closed?

(a) Because it is for privacy.

(b) Because it is very quiet.

(c) Because it is to avoid theft.

(d) a, b, and c.

8. What does "natural" in sentence (7) refer to?

(a) the scenery.

(b) the outdoors.

(c) the windows.

(d) the attractive scenery.

9. What is the function of natural ventilation?

(a) It is needed for health reasons.

(b) It is needed for thermal comfort.

(c) It is needed for physiological comfort.

(d) a, b, and c.

10. What factor does not influence the effectiveness of the window in securing good ventilation conditions.

(a) the location of the windows.

(b) the size of the windows.

(c) the design details of the windows.

(d) the material of the windows.

II. VOCABULARY

Fill in the blanks with the correct words in the box below.

orientation	important	passive	sunny
satisfactory	effective	internal	stabilize
specifically	discomfort		

In winter, windows in the (1)..... walls (the south in the Northern Hemisphere) can play an (2)..... role in providing solar heating to the interior of buildings. Technically such, (3)..... solar heating is termed a direct gain system.

For an (4)..... heating system it is not enough to have windows on the sunny side of the building. While any window in this (5)..... admits solar energy into the building, some additional elements are needed for (6)..... performance. (7).....,, part of the solar energy penetrating into the building during the daytime has to be absorbed in some (8)..... mass, in order to (9)..... the indoor environment and to prevent too fast an elevation of the indoor temperature, which may lead to overheating and heat (10).....

(source: Cowan, Henry J. 1991. Handbook of Architectural Technology, New York, Van Nostrand Reinhold).

LESSON 7. CHURCHES

(1) Many religious organizations are now reforming their practices of worship and community leadership; thus temples and churches representing traditional building types are often replaced by new forms.

(2) A church usually incorporates more than a space for worship. (3) The total project often includes a church school, a social hall, and a courtyard used for weddings and outdoor services; support facilities (lobby, sacristy, choir room, dressing room, toilets, offices, storage rooms, etc.) are needed as well.

(4) The central space of worship can be based on a variety plans that are either traditional, such as the rectangle, the cross, or the central form, or new, as exemplified by many multiform and multi focus concepts. (5) However they all share some basic characteristics according to the activities common in every form of worship. (6) An open space without columns is needed for assembly, and pastor and congregation should always be able to maintain eye contact. (7) The focus of this space is the altar. (8) Acoustics or electronic equipment must make the word of the pastor understandable throughout the congregation and should support singing and instrumental music. (9) Seating is always required; it can be of the fixed pew type, or it can consist of individual chairs, which allows for greater flexibility but requires storage

space.

(10)The program of religious schools often covers a variety of activities, including the screening of films, theatrical performances, crafts classes, and exercising. (10) Usually one classroom is enough. Its size can be estimated by assuming that each student needs 15 to 20 square feet of space. (11) Churches may become active centers of the community during the week, and the factors of accessibility, traffic flow, and parking requirements are important elements of the program. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the topic of the passage?
   (a) the religious organizations.
   (b) the church incorporating more than a space for worship.
   (c) the central space of worship.
   (d) the planning of churches.
2. What is a courtyard used for?
   (a) playing.
   (b) weddings.
   (c) outdoor services.
   (d) a, b, and c.

3. What belongs to support facilities of a church?

   (a) lobby. (c) offices.

   (b) toilets. (d) a, b, and c.

4. What plan does not belong to a traditional plan?

   (a) the rectangle. (c) the central form.

   (c) the multiform. (d) a, b, and c.

5. What plan does not belong to a new plan?

   (a) the cross. (c) the multi focus.

   (b) the multiform. (d) a, b, and c.

6. Why is an open space without columns nedded?

   (a) Because the focus of the space is the altar.

   (b) Because acoustics equipment must make the word of the pastor understandable.

   (c) Because the eye contact should be maintained between pastor and conregation.

   (d) a, b, and c.

7. What does "it" in sentence (9) refer to?

   (a) seating. (c) a space.

   (b) a chair. (d) flexibility.

8. What activities are included in religious schools?

   (a) exercising.

   (b) the screening of films.

   (c) theatrical performances.

   (d) a, b, and c.

9. What is the minimum size for a classroom of 20 students?

   (a) 15 sqft. (c) 300 sqft.

(b) 20 sqft. (d) 400 sqft.

10. What factors are the important elements of the program?

(a) accessibility. (c) parking requirements.

(b) traffic flow. (d) a, b, and c.

II. GRAMMAR

Underline the verbs both in active and passive voice that you find in the passage.

LESSON 8.THEATERS

(1) Like a hotel, a theater has a front area that accomodates the audience (guests and visitors) and a backstage part, which is limited to the performers and all supporting staff and facilities (hotel personnel). (2) Most important for the design is the relationship of space between audience and stage. (3) A good solution can apply only to a limited number of uses, since each type of performance has specific functional requirements. (4) The big multipurpose auditoriums therefore are not very suitable for theater performances. (5) An auditorium for plays without music can be very small, whereas the reverberation time of musical notes determines the minimum size for concert halls.

(6) The size of the stage is also closely related to the dimensions of the auditorium. (7) For best visibility, the depth of the house should be approximately 5 times the width of the stage, and the width of the house should be about 3 times the width of the stage. (8) A good proportion for the auditorium is

depth = width x 2

(9) In real numbers, the depth of the theater auditorium should not exceed 75 feet, although today performances are given in much bigger auditoriums where seats are as far as 200 feet away from the stage. (10) At this distance, however, the visibility of the actors is great-

ly reduced for many spectators.

(11) The visibility considerations influence the seating arrangements where the maximum vertical angle for spectator's field of vision is found to be limited to 30 degree. (12) On horizontal plane these factors determine the curvature of rows and the staggering of seats.

(13) Fire laws make aisles necessary, but they take away valuable viewing space, especially if the size of the auditorium requires a center aisle. (14) An alternative is the so-called continental seating arrangement, where wide spaces between continuous rows permit fast clearing in the transverse direction. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Choose and circle the correct answer.

1. What is the topic of the passage?
   (a) a theater having a front area.
   (b) a theater having to accomodate the audience.
   (c) the planning of a theater.
   (d) the size of a theater.
2. What is a front area for?
   (a) guests.
   (b) performers.
   (c) staff.
   (d) a, b, and c.
3. What is a back stage area for?
   (a) guests.
   (c) visitors.

(b) performers. (d) a, b, and c.

4. What is the most important in designing a theater?

(a) a front area and a back stage.

(b) the size of the stage.

(c) the relationship of space between audience and stage.

(d) a, b, and c.

5. Why are the big multipurpose auditoriums not suitable for theater performances?

(a) Because each type of performance has specific functional requirements.

(b) Because an auditorium for plays can be very small.

(c) Because the reverberation time determines the size of a theater.

(d) a, b, and c.

6. What determines the minimum size for concert halls?

(a) the type of performance.

(b) the size of the stage.

(c) the reverberation time.

(d) a, b, and c.

7. What can be determined by the width of the stage?

(a) the front area.

(b) the width of the house.

(c) the depth of the house.

(d) b and c.

8. Why should the depth of the theater not exceed 75

feet?

(a) Because the spectators cannot see the actor clearly if it exceeds 75 feet.

(b) Because the spectators cannot sit comfortly if it exceeds 75 feet.

(c) Because the spectators cannot talk to each other if it exceeds 75 feet.

(d) a, b, and c.

9. What influences the seating arrangements?

(a) the size of the theater.

(b) the width of the stage.

(c) the visibility consideration.

(d) a, b, and c.

10. Why are aisles necessary?

(a) Because they are used for escaping from the fire.

(b) Because they are used for going out the theater.

(c) Because they are used for going to the seats.

(d) a, b, and c.

II. GRAMMAR

Underline the adjectives that you find in the passage.

LESSON 9. SUN CONTROLS

(1) The building elements most widely used for sun control are overhangs, fins, and louvers. (2) If designed properly, they block the worst of the sun's heat and glare without obstructing the view or making the rooms much darker. (3) They may be part of the building's structure, such as cantilevered decks and roofs, or they may consist of fixed or adjustable elements attached to the structure. (4) Either horizontal or vertical members may be used, or both may be combined in a grid of sunbreakers. (5) Sun shading elements should control the sun's effect in the summer, yet admit full solar radiation during the winter months. (6) All shields and louvers are more effective if used on the building's exterior than if used for absorption and reflection of sun rays inside. (7) Outside, however, all sun controls are on a larger scale and may have a considerable effect on the aesthetics of the building.

(8) Sun shading elements can reduce heat gain very drastically, thus cut down the initial and operating costs of air conditioning systems by 15% and more. (9) They are very rarely used on highrise buildings today, however, because of the high installation cost, maintenance problems, and adverse past experiences with inadequately designed devices.

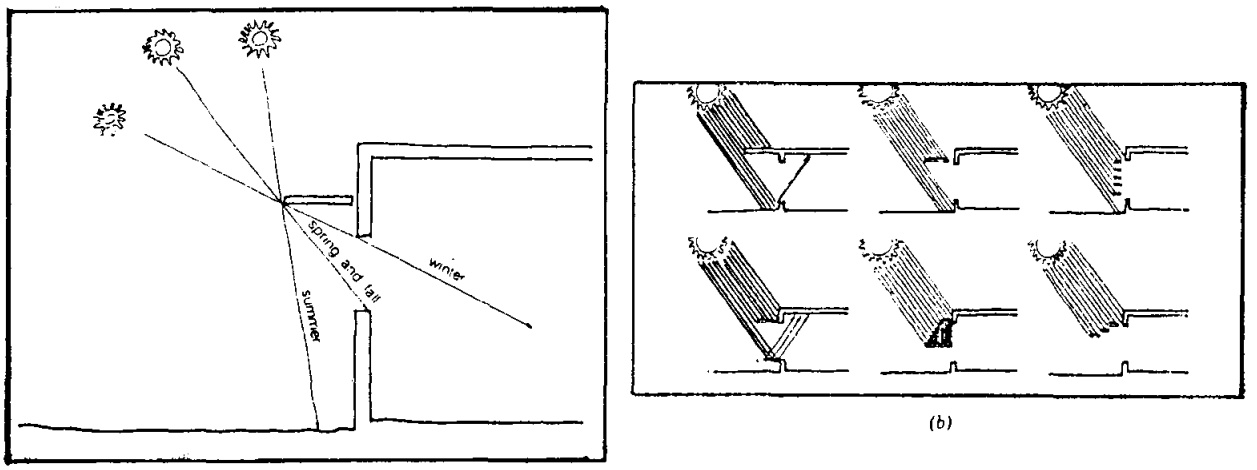

Figure 9.1 (a)The sizing of a fixed shading device. (b)Horizontal shading devices.

(10) Figure 9.1 illustrates how vertical fins and baffles work. (11) Vertical fins are mainly used to block out east and west radiation; vertical baffles, that is, elements parallel to the walls of the building, are effective for southern exposure as well. (12) Over the years, standardized and conventional sun shading elements have always proved to be more effective than unusual mechanical devices.

(13) Interior sun shading devices have the advantage of easy maintenance, but shades, blinds, and curtains always take away more light and view, yet are less effective as exterior devices in reducing heat gains.

(14) Deciduous tree can be very effective in shading low buildings, since their leaves block the unwanted summer sun, and in winter the bare branches let in desirable solar radiation. (15) If placed properly, they can also protect the structure from winter winds without

stopping the cooling (usually differently prevailing) summer breezes. (16) Apart from their function as sun- and wind-controlling elements, trees can also block out excessive noise, create spaces of privacy, purify the air, and enhance the aesthetics of a building. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. What are the building elements used for sun controls?
3. What is the purpose of giving overhang in a building?
4. Why are all shields and louvers more effective if used on the building's exterior?
5. What is the weakness if all shields and louvers are used on the building's exterior?
6. What can sun shading elements do?
7. Why are sun shading elements rarely used on highrise buildings today?
8. What are the functions of vertical fins and baffles?
9. What are the advantages and disadvantages of interior sun shading?
10. What is the function of the tree?

II. GRAMMAR

Underline the adverbs that you find in the passage.

LESSON 10. SITE CONSIDERATION OF OFFICE BUILDINGS

(1) For a speculative building to be a successful investment the location and the sites should be studied carefully. (2) Location can determine the business of the tenant, demand of office space, and the accessability to related organizations. (3) Site is important in relation to serve facilities, economical transportation, structural and possible building code and zoning requirements.

(4) A study of a location involves a consideration of the type of business of the desired tenants. (5) Most professional tenants require small individual offices with the possibility of lower cost inner (deep) space for necessary records and files. (6) The corporation office areas consisting of large spaces that are subdivided as the tenant desires and at his expense. (7) Therefore types of occupancy dictate the building shape and relative size in regards to the invesment. (8) In order to attract a desired tenant the building should be situated in the proximity of organizations with which the desired tenants will have business relations.

(9) Availability or personnel required by large corporation offices and the methods and conditions of transportation should also be investigated when determining the general location. (10) When selecting site, it is necessary to study the available utilities, gas, electrical steam and water. (11) The finding may determine the

most economical methods of heating illumination and air conditioning of the building.

(12) Local building codes, and the conditions of site will determine the methods and the limitations of the structure. (13) Existing neighboring real estate conditions and trends should be studied. (14) If the real estate in a given area has habitual vacancies, service problems or other difficulty, the cause and a solution must be found to secure the invesment in the new building. (source: Sleeper, Harold R. 1955. Building Planning and Design Standards, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. What can location determine?
3. Why is site important?
4. What do most tenant require?
5. What do types of occupancy determine?
6. Where should the building be situated in order to attract a desired tenant?
7. Why should transportation be investigated when determining the general location?
8. What will local building codes determine?
9. Why should the existing neighboring be studied?
10. What should you do if there are service problems?

II. VOCABULARY

Choose the correct words from the brackets to fill in the blanks.

The office planning concept has a (1)..... (strength, strong) effect on design. The concept is (2)..... (properly, proper) dealt with in programming, since it influences (3)..... (building, build) size and form. Two (4)..... (main, mainly) concepts may be considered: The conventional plan in which most of the building perimeter is taken up by (5)..... (full, fully) enclosed private offices and the (6)..... (open, opening) plan, which assigns all or most (7)..... (occupants, occupancy) to spaces enclosed by low screens or (8)..... (module, modular) furniture. Of course, the concept is (close, closely) related to the (9)..... (decides, decisions) made when (10)..... (creation, creating) space standards and, accordingly, the issue may need to be discussed during data collection. (source: Chiara, Joseph De and John Hancock Callender. 1990. Time-Saver Standards for Building Types, New York, McGraw-Hill Publishing Company).

LESSON 11. PARKING FACILITIES

(1)In some of the building types like hotels, offices, shopping centers, etc. the largest portion of structural volume may be required for the storage of cars. (2) Whether ground level parking is chosen, as opposed to multilevel garage structures, is mainly a function of the availability and cost of land. (3) In downtown areas the underground garage may be the only feasible alternative, although it represents the most expensive type of parking structure. (4) The main design consideration for any parking facility is to minimize the driving time to the stall and the walking distance to the entrance. (5) Three hundred feet is considered a maximum walking distance, and larger garages require escalators or elevators.

(6) The parking layout depends on whether self-parking or attendant parking is used. (7) The basic dimension of the parking stall, however, remains the same in both cases: namely, a minimum of 9 by 19 feet. (8) End stalls should be at least 10 feet wide, and there may be a number of special stalls for small cars.

(9) The 90 degree parking scheme uses space most efficiently and is also flexible in terms of driving directions. (10) Ramps connecting parking levels can be straight or can consist of a single or double spiral; the latter is used to separate up- and down-flowing traffic.

(11) Ramp grades should not exceed 12% or 7 degree. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. In which building types are parking facilities necessary?
3. When is a multilevel garage structure needed?
4. What is the main design consideration for any parking facility?
5. When are elevators required in larger garages?
6. What is the minimum size of the parking stall?
7. Why does the 90 degree parking scheme use space most efficiently?
8. Why is the 90 degree parking scheme flexible?
9. How are parking levels connected?
10. What should ramp grades be?

II. GRAMMAR

Underline the prepositions that you find in the passage.

LESSON 12. GOALS OF A LIGHTING DESIGN

(1) Simply stated, the goal of lighting is to create an efficient and pleasing interior. (2) These two requirements, that is, the utilitarian and esthetic, are not antithetical as is demonstrated by every good lighting design. (3) Light can and should be used as a primary architectural material. (4) We elaborate on these goals below.

1. (5) Lighting levels should be adequate for efficient seeing of the particular task involved. (6) Variations within acceptable luminance ratios in a given field of view are desirable to avoid monotony and to create perspective effects.

2. (7) Lighting equipment should be unobstrusive, but not necessary invisible. (8) Fixtures can be chosen and arranged in various ways to complement the architecture or to create dominant or minor architectural features or patterns. (9) Fixtures may also be decorative and thus enhance the interior design.

3. (10) Lighting must have the proper quality. (11) Accent lighting, directional lighting, and other highlighting techniques increase the utilitarian as well as architectural quality of a space.

4. (12) The entire lighting design must be accomplished efficiently in terms of capital and energy re-

sources, the former determined principally by life-cycle costs and the latter by operating energy costs and resource-energy usage. (13) Both the capital and energy limitations are, to a large extent, outside the control of the designer, who works within constraints in these areas. (14) Obviously, these constraints are maxima.

(15) With these goals, we can write a lighting design procedure, keeping in mind that the order of steps shown is not necessarily the same in each lighting problem and that, since all of the factors are closely interrelated, it is often necessary to apprehend several of the stages simultaneously before arriving at a decision. (source: Stein, Benjamin. 1986. Mechanical and Electrical Equipment for Buildings, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. What is the goal of lighting?
3. Which sentence contains the major supporting detail?
4. Which sentence contains the minor supporting detail?
5. Why should lighting level be adequate for efficient seeing of the particular task involved?
6. How can the monotony be avoided?
7. Why should fixtures be decorative?
8. Why must lighting have the proper quality?

9. What does "the former" in sentence (12) refer to?

10. What does "the latter" in sentence (12) refer to?

II. GRAMMAR

Underline the conjunctions that you find in the passage.

LESSON 13. HOSPITALS

(1) The programming and design of hospitals requires a great deal of special knowledge. (2) Hospitals vary greatly in their organisation of staff hierarchies, administration, and the relation between outpatient and inpatient sectors, and in terms of their specialization in certain areas of medicine. (3) In every case, however, the bedroom tract with the nursing wards accounts for the greatest part of space volume. (4) Other, very detailed components generally include surgical suites, pediatric units, X-ray units, therapy rooms, intensive-care wards, emergency units, and the clinics for the treatment of outpatients. (5) Since the programming of most of these units is largely the responsibility of medical experts, the architect must concentrate on the elements of outer and inner circulation of staff, patients, visitors, and supply, on the administrative facilities, and on the design of the nursing units.

(6) The most common type of nursing unit today has two corridors, with supply and staff rooms in the middle. (7) A single room typically has 150 square feet, a 2-bed room has 200, and a 4-bed room has 400. (8) Three-bed room arrangements are usually avoided. (9)The room should be between 10 to 14 feet wide and between 15 and 22 feet deep. (10) Four-bed rooms are twice the width of 2-bed rooms. (11) Today an individual bath for every room is a

standard arrangement, as are wardrobes. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. What do hospitals vary in?
3. What does "outpatient" mean?
4. What does "inpatient" mean?
5. What are the clinics for?
6. What is the outer circulation for?
7. What is the inner circulation for?
8. Why are three-bed room arrangements usually avoided?
9. What is the width and the depth of a 2-bed room?
10. What is the width and the depth of a 4-bed room?

II. VOCABULARY

Find the definition of the following words:

1. surgical suites :
2. pediatric units :
3. X-ray units :
4. therapy rooms :
5. intensive-care wards :
6. emergency units :
7. the clinics :
8. nursing units :

LESSON 14. HOUSING

(1) The volume of residential construction is always greater than the total volume of all other building types combined. (2) Dwelling units have taken an endless variety of shapes, from tepees to highrise apartments; yet their functional problems are so complex that each design poses a new challenge to the architect.

(3) The conventional house organizes the main functions into separate rooms, but since the activities of a house-hold follow the general pattern only vaguely, great flexibility is required. (4) Children, for instance, use bedrooms for a great many functions as they grow up, and even a bathroom, which seems to have a clear functional definition, may be used for such activities as laundering and exercising, or even serving as a darkroom.

(5) The functional questions to be addressed in planning a dwelling unit are, how much space do people need, and how can spaces be arranged for optimal circulation patterns? (6) Certain relationships have become conventional standards. (7) Bedrooms, for instance, should have direct access to bathrooms, dining areas and kitchen need to be together, the outdoors should be accessible from the living room, and so on.

(8) Furniture types and combinations are greatly standardized in our society, as are the tolerances for spacing them. (9) Although people are not aware of the

actual dimensions, we tend to feel uncomfortable in a dining area that has less than 2 feet of table space per person or less than 2 feet of clearance between the chairs and the wall.

(10) Multifamily living, in apartments or condominiums, is becoming the dominant form of housing in our cities. (11) Multifamily units are a result of the need for greater economy, which can be served by using repective modules, simple unit outlines that minimize party walls, and a high ratio of interior volume to exterior wall area. (12) Access and circulation are more complex in multiple dwelling projects, and there is a need for such additional areas as corridors, lobbies, recreation rooms, and service facilities. (13) Economy of circulation can be achieved by placing small units with greater night traffic close to access points and large family units at the corners of the structure. (14) This arrangement also reduces the length of hallways and increases the window area of large units. (15) Bathroom and kitchen units will need less in the way of mechanical services if they can be placed back to back. (16) In highrise apartment buildings the ground floor serves a multitude of functions, becoming the central area of the project and the element that links the indoors to the outdoor space. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. Why is great flexibility required in housing?
3. Why should bedrooms have direct access to bathrooms?
4. Why do dining areas and kitchen need to be together?
5. Why should the outdoors be accessible from the living room?
6. Why do we feel uncomfortable in a dining area having less than 2 ft of clearance between the chairs and the wall?
7. Why is multifamily living becoming the dominant form?
8. How can economy of circulation be achieved?
9. What does "the way of mechanical services" mean?
10. What does "a multitude of functions" mean?

II. GRAMMAR

Underline the gerund phrases, participial phrases, and infinitive phrases that you find in the passage.

LESSON 15. CORES

(1) Typically, building cores are centrally located, but architects locate cores in a wide variety of other places. (2) They can be placed eccentrically within the building, at remote ends, and sometimes even in one or more corners. (3) The location is usually chosen for a particular overriding reason or for a combination of reasons, and the final selection of the core location often carries with it an accompanying visual impact. (4) This visual statement can be particularly dramatic if the core is located at the building's exterior. (5) It may be dominating if the core is placed outside the structure's general envelope. (6) In some buildings, the core is split into two or more clusters rather than being massed in a single location.

(7) Several factors influence the location of the core, particularly in high-rise buildings. (8) The primary consideration is the use and circulation patterns of the people who will occupy the building. (9) Second, when the walls of the various vertical shafts are called upon to perform the additional task of providing the wind-bracing system, the core shafts must be located in the proper place to stiffen the building as a whole. (10) The taller the structure, the more critical the core location becomes. (11) Third, those shafts containing ducts and other mechanical equipment must be located in a manner

that will permit a logical horizontal distribution of the heating, ventilating, electric and other systems at each floor level. (12) Finally, vertical shafts containing the exit stairs must be located in such a way as to conform to the maximum travel distances required for safe exiting of the building in an emergency.

(13) There are other influences and restraints on the placement of the core, but even from this abbreviated list, one can sense the various combinations that are possible when combining the different elements that constitute the building core. (14) For example, an architect could locate stairs at the ends of a building and centrally place the elevators. (15) Or he or she might want to express the mechanical shafts separately from the elevator shaft and stairs. (16) Some architects place shafts on the exterior to serve as form givers. (17) The possibilities are endless, but in the hands of creative architects, the core can become one of the major form givers. (source: Guise, David. 1991. Design and Technology in Architecture, New York, Van Nostrand Reinhold).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. Where is the location of cores in a building?
3. What is the reason of the location of cores in a building?

4. What is the result if the core is placed outside the structure's general envelope?
5. Which sentence in the second paragraph contains the supporting major detail?
6. Which sentence in the second paragraph contains the supporting minor detail?
7. In the relation to the wind bracing system, what is the function of cores?
8. How must shafts containing mechanical equipment be located?
9. What are exit stairs for?
10. Why do some architects place shafts on the exterior?

II. GRAMMAR

Underline the noun clauses, adjective clauses, and adverb clauses that you find in the passage.

LESSON 16. HOTELS AND MOTELS

(1)The three basic types of contemporary hotels are the transient hotel, as it is found in the downtown areas of our cities; the resort hotel, which caters mainly to vacationers away from the cities; and the motor inn or motel, usually located along highways and at the peripheries of cities. (2) Each type serves a different segment of hospitality industry, and all three have different standards and facilities.

(3) A motel provides the guest with a bedroom, a bathroom, and a parking space. (4) It may or may not have a restaurant or coffee shop. (5) Service areas are reduced to an office, a laundry, and a supply room.

(6) A hotel has an area in front that is accessible to the guests and a back part containing all the supporting facilities, of which the guest should be minimally aware. (7) Dining rooms, lounges, bars, beauty parlors, and stores belong to the front; administration, supply kitchen, laundry, housekeeping, storage, and maintenance are functions organized in the back of the hotel.

(8) In the programming of the front part, the architect tries to make everything easily accessible to the guests. (9) The location of such facilities as reception desk, elevators, bar, and restaurant should be apparent even to new arrivals, to avoid confusion and disorientation. (10) Corridors are usually 6 feet wide, and their

length should not exceed 100 feet.

(11) Guest rooms vary greatly in size and amenities, from a minimum-size motel room to a suite in a luxury hotel. (12) In an average situation, the dimensions are determined by the number and sizes of beds. (13) A standard width is 12,5 feet, corresponding to a length between 14 and 20 feet. (14) A single bed measures 3 x 6,5 feet, a king size bed is 6 x 7 feet. (15) Bathroom sizes and closet space also vary with the type of hotel and should be designed for the specific needs of the patrons expected. (16) Each floor of guest rooms is connected with the back part of the hotel by means of a service elevator, which is accessible only through the supply and service room, thus helping to separate the circulation patterns of guests and hotel staff. (source: Kemper, Alfred M. 1979. Architectural Handbook, New York, John Wiley & Sons).

I. READING COMPREHENSION

Answer the following questions:

1. What is the main idea of the passage?
2. Where is the location of the transient hotel?
3. Where is the location of the resort hotel?
4. Where is the location of the motel?
5. What belongs to the front of a hotel?
6. What belongs to the back of a hotel?
7. What should be apparent to new arrivals?
8. Why should they be apparent?

9. What factor determines the dimension of a room?

10. What is a service elevator for?

II. VOCABULARY

Fill in the blanks with the correct words in the box below.

recreational	outlying	patrons	high-class
metropolitan	suburban	function	guest-room
intercontinental	beverage		

The airport inn is built at a major, usually (1)....., airport. A relatively large and (2)..... operation, this type of motel often has 150 to 300 rooms, two-story (3)..... buildings, and a site of at least 10 acres. Business is supplied by airline (4)....., motorists and guests from the (5)..... area served by the airport. The size of such a motel permits full-scale food and (6)..... facilities, (7)..... rooms, and often as extensive (8)..... facilities as are found in resort motels. The location usually borders on the (9)..... industrial area, within easy driving distance of both the (10)..... residential area and the city. (source: Chiara, Joseph De and John Hancock Callender. 1990. Time-Saver Standards for Building Types, New York, McGraw-Hill Publishing Company).

APPENDIX II : QUESTIONNAIRES ON STUDENTS COMMENTS ON THE MATERIALS

A. Lingkarilah jawaban yang saudara pilih.

1. Apakah materi yang diberikan sesuai dengan kebutuhan anda sebagai seorang calon arsitek?

   (a) sangat sesuai (c) kurang sesuai

   (b) sesuai (d) tidak sesuai

2. Apakah materi yang diberikan menarik minat saudara?

   (a) sangat menarik (c) kurang menarik

   (b) menarik (d) tidak menarik

3. Apakah anda memahami materi yang diberikan?

   (a) sangat memahami (c) kurang memahami

   (b) memahami (d) tidak memahami

4. Apakah anda memahami penjelasan yang diberikan?

   (a) sangat memahami (c) kurang memahami

   (b) memahami (d) tidak memahami

5. Apakah anda mempunyai kesempatan untuk aktif dikelas?

   (a) sangat mempunyai (c) kurang mempunyai

   (b) mempunyai (d) tidak mempunyai

B. Berikanlah komentar saudara.

1. Komentar saudara terhadap materi yang diberikan:

   a. Terhadap bacaan : _____

   b. Terhadap latihan: _____

2. Komentar saudara terhadap tingkat kesulitan dari bacaan tersebut: _____