Quiz Of Sustainable Design For Buildings

1. When does Sustainable Planning take place?
   A) During the design phase of the building’s development (Correct)
   B) During the construction phase of the building’s development
   C) After construction of the building

2. Sustainable planning considers environmental, social, and _______ impacts of a building.
   A) technological
   B) economic (Correct)
   C) political

3. Which of the following is considered a negative environmental impact?
   A) Accessible green space (i.e. parks)
   B) Pedestrian pathways
   C) Construction noise (Correct)

4. Which of the following practice applied in sustainable planning?
   A) Energy audits
   B) Site appraisals (Correct)
   C) Waste management plan

5. Negative environmental impacts can be mitigated by performing...
A) a Preliminary Environmental Review.  
B) an Environmental Impact Assessment.  
C) Both (Correct)

6. In sustainable planning, site appraisals evaluate the...
   A) site cleanliness.  
   B) economic value of the land.  
   C) relationship between the building and its surrounding areas. (Correct)

7. Site appraisals evaluate a building’s accessibility to infrastructure, ________, and local micro-climate.
   A) compatibility of use with surrounding area (Correct)  
   B) indoor air quality  
   C) noise pollution

8. By evaluating a building’s ecological impact, environmental harm is identified, __________, and prevented.
   A) reduced (Correct)  
   B) increased  
   C) enhanced

9 Which of the following measures reduce land take impact?
   A) Minimise building footprint (Correct)  
   B) Increase building footprint  
   C) Increase roof surface area

10. Which of the following is not a sustainable planning practice?
   A) Reuse of existing structure and materials  
   B) Heritage Impact Assessment
C) Energy Audit (Correct)

11. Which of the following is a reusable building material from demolished buildings when constructing new buildings?
   A) Bricks (Correct)
   B) Paint
   C) Carpet

12. It is often more __________ to adapt existing buildings to new uses.
   A) expensive
   B) economical (Correct)
   C) dangerous

13. What does HIA stand for?
   A) Historic Impact Assessment
   B) Heritage Impact Assessment (Correct)
   C) House Impact Assessment

14. The HIA process ensures that heritage buildings are ________ and that the public is consulted before development.
   A) preserved (Correct)
   B) demolished
   C) overlooked

15. A Heritage Impact Assessment...
   A) reduces environmental impacts.
   B) protects historic character of older buildings. (Correct)
   C) considers the cost of building operation.
16. What does RHBTP stand for?
   A) Revitalising Historic Buildings Through Partnership (Correct)
   B) Reusing Handsome Buildings Through Partnership
   C) Revitalising Huge Buildings Through Partnership

17. The Revitalising Historic Buildings Through Partnership (RHBTP) Scheme does not promote...
   A) adaptive re-use.
   B) expansion of building use.
   C) Energy Audit. (Correct)

18. Sustainable building design is an enhanced building ________ that promotes environmental protection, health and safety.
   A) standard (Correct)
   B) feature
   C) management

19. Sustainable building design does not include...
   A) energy conservation.
   B) Indoor Air Quality.
   C) Town Planning. (Correct)

20. In Hong Kong, electricity use in buildings contributes to ____ of the City’s total electricity consumption.
   A) 11%
   B) 54%
   C) 89% (Correct)

21. A building’s ability to minimize solar heat gain is measured by the...
A) Overall Thermal Transfer Value (OTTV). (Correct)
B) Environmental Impact Assessment.
C) Revitalizing Historic Buildings through Partnership (RHBTP) Scheme.

22. What does LEED stand for?
A) Leadership in Energy Efficiency Design
B) Leadership in Energy and Environmental Design (Correct)
C) Leadership in Energy Emissions Design

23. A building which utilizes solar energy such as solar film effectively ________
heat gain during the winter, and ________ heat gain during the summer.
   A) increases; reduces (Correct)
   B) reduces; increases
   C) reduces; reduces

24. A sustainable building is integrated into the natural and ________ setting of its location.
   A) cultural (Correct)
   B) technological
   C) political

25. Which land use is considered incompatible with residential neighbourhoods?
   A) Commercial use
   B) Industrial use (Correct)
   C) Residential use
26. ________ ventilation requires less energy, capital and maintenance costs, and contributes less GHG emissions.
   A) Mechanical
   B) Natural (Correct)
   C) Automatic

27. Rainwater can be harvested from roofs of buildings and stored for non-potable uses. Which of the following is considered a non-potable use?
   A) Drinking
   B) Toilet flushing (Correct)
   C) Cooking

28. Which of the following is not considered a renewable energy source?
   A) Geothermal
   B) Solar
   C) Coal (Correct)

29. Renewable energy is _________ and does not produce greenhouse gases during operation.
   A) scarce
   B) plenty (Correct)
   C) unavailable

30. Renewable energy is a solution for __________ energy demand and __________ oil supply.
   A) diminishing; growing
   B) growing; diminishing (Correct)
   C) growing; stable
31. The Hong Kong Government aims to generate _____ percent of the City’s electricity supply using renewable energy by 2012.
   A) 1-2 (Correct)
   B) 5-10
   C) 10-20

32. Universal accessibility is a design approach that allows participation from a ________ range of users.
   A) limited
   B) small
   C) diverse (Correct)

33. A well-design building envelope ________ the entry of contaminated air and moisture.
   A) allows
   B) increases
   C) eliminates (Correct)

34. Building orientation is the __________ of a building on a site.
   A) positioning (Correct)
   B) design
   C) heating

35. Building with windows facing _____ or _____ provide good access to illumination and effortless shading.
   A) east; west
   B) north; south (Correct)
   C) south; west
36. What is functional building design?
   A) A design that serves its purpose well
   B) A design that is flexible and adaptable to the changing tenant requirements
   C) Both (Correct)

37. Green procurement is the use of building materials that are __________ and __________ while eliminating the use of materials that contain ozone depleting substances.
   A) new; trendy
   B) recyclable; rapidly renewable (Correct)
   C) used; non-renewable

38. FSC certified timber are harvested from sustainable forests. What does FSC stand for?
   A) Forest Saving Community
   B) Friendly Stewardship Council
   C) Forest Stewardship Council (Correct)

39. Volatile Organic Compounds (VOCs) are commonly found in...
   A) paints and lacquers. (Correct)
   B) refrigerants and air-conditioners.
   C) household appliances.

40. Ozone-depleting substances are commonly found in which products?
   A) Paints and lacquers
   B) Refrigerants (Correct)
   C) Household appliances
41. Which of the following is not a rapidly renewable building material?
   A) Bamboo
   B) Cork
   C) Timber (Correct)

42. Using recycled-content building materials can _______ waste as well as pollution and energy associated with the mining, harvesting of raw materials.
   A) increase
   B) create
   C) reduce (Correct)

43. Which of the following statement is true?
   A) Using non-renewable materials can reduce the environmental impacts.
   B) Using new building materials can reduce waste disposal.
   C) Using recycled-content materials can enable the reuse of waste and thus reduce waste disposal. (Correct)

44. Which of the following statement is true?
   A) Plastic lumber made from paper and wood chips is a recycled-content material.
   B) Straw is considered a rapidly renewable building material. (Correct)
   C) All timbers are come from sustainable forests.

45. Which of the following is not a recycled-content building material?
A) Virgin timber (Correct)
B) Tile containing recycled glass
C) Concrete containing recycled aggregate

46. Salvaging of bricks and stones from an old building for use in a new building is an example of what type of practice?
   A) Reusing (Correct)
   B) Reducing
   C) Recycling

47. What does VOCs stand for?
   A) Volatile Organic Compounds (Correct)
   B) Various Organic Compounds
   C) Volatile Outdoor Chemicals

48. Volatile Organic Compounds are...
   A) organic chemical compounds that easily vaporize into the air.
   B) a major cause of smog in the atmosphere.
   C) Both (Correct)

49. The most harmful ultra-violet radiation from the sun is ______ wavelengths.
   A) UVA
   B) UVB (Correct)
   C) UVC

50. The ____________ of the atmosphere act(s) as a sun block for the Earth, filtering harmful radiation from the sun.
   A) ozone layer (Correct)
   B) oxygen molecules
C) clouds

51. Using recycled-content building materials will ________ resource depletion, energy use in raw material extraction, and waste.
   A) increase
   B) reduce (Correct)
   C) encourage

52. Rapidly renewable materials regenerate ________ than/as their market demand.
   A) faster (Correct)
   B) slower
   C) at the same speed

53. A ________ building material can be made into new products again and again.
   A) recyclable (Correct)
   B) reusable
   C) repairable

54. Paving block made of recycled glass from disposed bottles is ____________.
   A) a rapidly renewable building material
   B) a recycled-content building material (Correct)
   C) a VOC off-gasing building material

55. Straw bales used for building insulation is ____________.
   A) a rapidly renewable building material (Correct)
   B) a recycled-content building material
C) a VOC off-gasing building material

56. Cork flooring is ______________.
   A) a rapidly renewable building material (Correct)
   B) a recycled-content building material
   C) a VOC off-gasing building material

57. When does Sustainable Construction take place?
   A) During the design phase of a building’s development
   B) During the construction phase of a building’s development (Correct)
   C) After construction of the building

58. Sustainable construction considers the _____________ and _____________ impacts of construction activities on the surrounding neighbourhood.
   A) operational; economical
   B) environmental; operational
   C) environmental; social (Correct)

59. What environmental aspects are monitored to identify and mitigate environmental nuisances during construction?
   A) water and waste
   B) air and noise
   C) All of the above (Correct)

60. What is the main source of air pollution from construction activities?
   A) Greenhouse gases
   B) Dust particles (Correct)
C) Ozone

61. Airborne particulates arising from construction can travel _________ from the site, affecting the air quality and health of the neighbourhood.
   A) far (Correct)
   B) fast
   C) a short distance

62. Noise disturbance from construction activities is minimized by utilizing noise barriers and _________.
   A) installing automatic water spraying devices
   B) conducting regular noise impact assessments (Correct)
   C) adopting precast concrete road paving

63. Mosquito breeding in construction sites can be minimized by enhancing the passage of water and removing ________ water. Choose the best answer.
   A) stagnant (Correct)
   B) chemically polluted water
   C) murky

64. ________ wastes are sorted for public fill disposal and ________ wastes are disposed in landfills.
   A) Public; private
   B) Inert; non-inert (Correct)
   C) Industrial; household

65. What must a builder implement to reduce construction and demolition waste?
A) A waste management plan  **(Correct)**
B) A safety plan
C) A water management plan

66. A waste management plan is a strategy to generate _________ construction waste on site and to ___________ public fills and landfills.
   A) more; increase waste to
   B) less; sort waste effectively before disposed to  **(Correct)**
   C) less; transport waste safely to

67. Under the Noise Control Ordinance, the construction activities in Hong Kong are grouped into two categories:
   A) General construction work & Percussive Piling  **(Correct)**
   B) General construction work & heavy machinery work
   C) Noise level I & Noise level II

68. Which of the following is not an inert material?
   A) Excavated rocks
   B) Bamboo  **(Correct)**
   C) Soil materials

69. Which of the following measures are not used in construction air pollution management?
   A) Use of precast concrete paving
   B) Use of mobile sprinkler
   C) Use of feather duster  **(Correct)**

70. In order to operate construction activities during restricted hours, a ___________ must be obtained.
A) Construction Water Permit
B) Construction Noise Permit
C) Construction Air Permit (Correct)

71. When do construction activities restrict under the Noise Control Ordinance?
   A) Between 7p.m. to 7a.m.
   B) Sundays and statutory holidays
   C) All of the above. (Correct)

72. Which of the following measures are not used to reduce waste water impacts during construction?
   A) Installation of waste water treatment plant to collect and treat waste water before discharge
   B) Regular testing on wastewater quality after treatment
   C) Use of mobile sprinkler (Correct)

73. About _____ percent of the total waste intake by landfills comes from the construction industry.
   A) 20
   B) 30
   C) 40 (Correct)

74. Which of the following measures are not used to reduce mosquito breeding in a construction site?
   A) wrapping of bamboo scaffolding ends to prevent water from entry
   B) use of light duty sump pumps to clear stagnant water
   C) use of mechanical cover for dump truck (Concrete paving can be related to less risk for stagnant water.) (Correct)
75. Substitution of traditional timber with metal formwork can save timber consumption by up to _____ percent.
   A) 20
   B) 30 (Correct)
   C) 501

76. Which of the following is not a strategy to reduce construction waste?
   A) Use of insulated refuse chute (Correct)
   B) Use of prefabricated materials
   C) On-site sorting to separate inert materials from non-inert materials

77. What is a sustainably maintained building?
   A) A building which uses innovative technology in their design.
   B) A building which requires little energy and attention for upkeep and operation. (Correct)
   C) A building which requires intensive maintenance and repairs for upkeep and operation.

78. When does Sustainable Maintenance take place?
   A) During the design phase of a building ’ s development
   B) During the construction phase of a building ’ s development
   C) After the construction of a building. (Correct)

79. In the context of sustainable building maintenance, what does POE stand for?
   A) Projected Operational Environment
   B) Post Occupancy Evaluation. (Correct)
80. A Post Occupancy Evaluation (POE) is a management tool tailor-made to evaluate the building performance __________ tenant occupancy.
   A) before
   B) during
   C) after (Correct)

81. Which of the following is not a local voluntary programme benchmarking building performance?
   A) Building Environmental Assessment Method (BEAM).
   B) Leadership in Energy and Environmental Design (LEED). (Correct)
   C) Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERSB).

82. The Hong Kong Energy Efficiency Registration Scheme for Buildings (HKEERS) is managed by which department?
   A) Architectural Services Department
   B) Buildings Department
   C) Electrical and Mechanical Services Department (Correct)

83. Life Cycle Costing (LC C) is a technique to establish the ______ cost of ownership.
   A) initial
   B) partial
   C) total (Correct)

84. LCC gives the current and future costs of a building ’s
development, operation and _________ throughout its useful life.

A) performance  
B) maintenance  
C) fire drill (Correct)

85. Greenhouse gas emission in Hong Kong is mainly generated during the production of _________.

A) recycled aggregates  
B) electricity (Correct)  
C) electrical appliances

86. Which of the following is not the purpose of a preventative maintenance strategy?

A) To ensure that a building will continue to function properly  
B) To prolong the service life of the building  
C) To repair or replace building components when they are damaged (Correct)

87. A preventative maintenance strategy aims at taking regular inspections and maintenance activities _______ the breakdown of a building element or system.

A) before (Correct)  
B) during  
C) after

88. Which of the following measures are not included in a preventative maintenance program?

A) Garden landscaping (Correct)  
B) Internal and external redecoration works
C) Regular inspection of ventilation system

89. Which of the following are not routinely inspected under a preventative maintenance program?
   A) Passenger lift
   B) Central air-conditioning system
   C) Furniture  (Correct)

90. Computerization of maintenance activities allows....
   A) monitoring of repair works for buildings.
   B) identification of outstanding repair works.
   C) All of the above  (Correct)

91. The valuable information stored in the computerized system for maintenance works can be retrieved for...
   A) reference for future design.
   B) planning a suitable preventive maintenance program.
   C) All of the above  (Correct)

92. The preventative maintenance program and the _____________ ensure that a building can be well-maintained.
   A) stakeholder engagement  (Correct)
   B) computerization of maintenance activities
   C) cost analysis