**E.G.S PILLAY ENGINEERING COLLEGE**

**NAGAPATTINAM - 611002**

QUESTION BANK WITH ANSWER

**DEPARTMENT: CIVIL SEMESTER: 08**

**SUBJECT CODE /NAME: CE 2045/PREFABRICATED STRUCTURES**

**YEAR: IV**

**PART – A**

**1. What is meant by modular co-ordination? ( NOV/DEC 2012 & 2013)**

Modular coordination is a concept for coordinating dimension and space for which building and component are dimensionally it used and positioned in basic units (or) modules. The standard specify that the module basic M = 100 mm. As the basic unit be used in a square of M.

**2. What are the production techniques? ( NOV/DEC 2013)**

The term production techniques describe a series of operation directly concerned in the process of making or more apply of molding precast units.

These techniques grouped into three basic methods of production.

* The stand system
* The conveyor belt or production line system
* The aggregate system

**3. List out the limitations of prefabrication. ( NOV/DEC 2012)**

* Extra reinforcement is required to take care of handling and erection stresses.
* Temporary properties may be required in some cases before the un-site concrete joints achieve strength.
* The cracks may develop at the joints between the precast in site concrete due to shrinkage and temperature stresses. To overcome them extra steel is required across joint.

**4. List the advantages and disadvantages of prefabricated system. ( MAY/JUNE 2012)**

**Advantages:**

Self supporting readymade components are used, so the need for formwork, shuttering and scaffolding is greatly reduced.

* On-site construction and condition is minimized.
* Less waste may occur.

**Disadvantages:**

* Careful handling of prefabricated components such as concrete panels (or) steel and glass panels is reduced.
* Similarly leaks can form at joints is prefabricated component.

**5. List the system for prefabrication. (MAY/JUNE 2012)**

* Large panel systems
* Frame systems
* Slab-column systems with walls
* Mixed systems

**6. What are the types of prefabrication? (MAY/JUNE 2013)**

* Small prefabrication
* Medium prefabrication
* Large prefabrication
* Cast in – site prefabrication
* Off-site (or) factory prefabrication
* Open system of prefabrication
* Closed system of prefabrication
* Partial prefabrication
* Total prefabrication

**7. What is the need for pre fabricates structures? (MAY/JUN 2013)**

* Prefabricates structures are used for sites, which are not suitable for normal construction method.
* PFS facilities can also be created at near a site as is done to make concrete blocks used in plane of conventional brick.
* Structures which are used repeatedly and can be standardized.

**8. Mention the types of prefabrication techniques. (May/jun 2013)**

* Moulds
* Connections
* Columns
* Beams
* Floor units
* Stair units
* Wall panels

**9. list out the precautions taken while erecting precast elements.(may/jun 2011)**

i) Check crane access to the site and erection platform to prevent cranes or trucks damaging the concrete floor during access.

ii) Obtain verification that the erection platform can support the erection loads.

iii) Ensure the locating dowels and levelling shims are correctly located. Dowels rather than blocks should be used to restrain the base of face-lifted panels when they are being positioned.

iv) Clear the site for truck and crane access ensuring room for crane outriggers, counterweight

tail swing, and boom swing and under hook and overhead obstructions.

**10. what are the materials can prefabricated structures be made of?**

The materials used in prefabricated components are many. Some of the materials are mentioned below:

* Concrete
* Steel
* Timber
* Aluminium
* Lightweight and cellular concrete
* Ceramic products
* Gravel, slag, mortar, cement, Water.

**11. What is meant by Standardization?**

The word 'system' is referred to a particular method of construction of buitdings by using prefabricated components which are inter related in functions and are produced to a set of instructions. With certain constrajnts, several plans are possible, using the same set of components. The degree of flexibility varies from system to system. However, in alt the system, there is a certain order and discipline.

**12. state any two principles of prefabricated structures.(dec 2013)**

1. The theory behind the method is that time and cost is saved if similar construction tasks

can be grouped and assembly line techniques can be employed in prefabrication at a

location where skilled labour is available, while congestion at the assembly site, which

waste time, can be reduced,

2. The method finds application particularly where the structures is composed of repeating

units or forms or where multiple copies of the same basic structure are beinq constructed.

**13. what are the basic principles of modular co-ordination?**

* The basic module is small in terms of add size in order to provide design flexibility, yet large enough to promote simplification in the component variation in sizes.
* Industry friendly features that not only for manufacturing but also the transportation and assembly requirements.
* Internationally accepted to support international market

**14. Define prefabricated(May/June 2012)**

Prefabrication is the practice of assembling components of a structure in a factory or other manufacturing site and transporting complete assembles to the construction site where the structure is to be located.

**15.** **What are the design principles of prefabricated systems?**

* Standardization
* Principle of structural design
* Connections