**IQRA NATIONAL UNIVERSITY PESHAWAR**

**NAME:** ARSHAD KHAN

R/NO : 16777

B. TECH(civil) 2ND SEMISTER

PEPER : CONCRETE TECHNOLOGY

INSTRUCTOR : IQTIDAR ALI SIR

Write a brief note on ?

Q:3(a)

ANS(1):normal strength of concrete :

Concrete as a construction material are grouped as normal concrete or high strength concrete based on its compressive strength .the compressive strength of normal concrete has a value ranging b/w 20 and 40 mpa ….but now the concrete can attain strength that is graeter then 800 mpa.

(2): pre-stress concrete:

Pre-stressed concrete is a form of reinforced concrete that build in use.

In other words it is a combination of steel and concrete that takes advantages of the strengths of each material.

(3):reinforced concrete :

Reinforced concrete is a composite material in which concretes relatively low tensile strength and ductility are counteracted by the inclusion of reinforcement having higher tensile strength and or ductility that a strong reason of today most of engineers are use reinforced concrete.

Q:3(b)

**ANS:** interfacial transition of zone in concrete **:**

in fresh concrete a water cement ratio( w.c.r) gradient develops around the aggregate a particles during casting, resulting in a different micro structure of the surrounding hydrated cement paste.this zone around the aggregate is called the interfacial transition zone of concrete.

Q:2(a)

**ANS**: micro structure of hydrated cement paste :

The chemical composition of the principal clinker minerals coresponds approximately to C3S, C2S, C3A and C4AF: in ordinary Portland cement their respective amounts usually range b/w 45 and 60,15 and 30,6 and 12,and 6 and 8 percent.

Q:2(b)

ANS: thermal properties of concrete :

The thermal properties that influence temperature rise and distribution in a concrete structural member are thermal conductivity ,specific heat ,thermal diffusivity ,and mass loss.

There are three types of thermal expansion are given below

1. **Volume expansion :** the change in volume is proportional to the original volume and to the change in temperature.

**2. Linear thermal expansion :** the length of an object change when its temperature change.

**3. Area thermal expansion :** the area thermal expansion coefficient relates the change in a materials area dimensions to a change temperature.

Q:1(a)

ANS: most three iportant resons of concrete :

Concrete is a popular material for many construction application,

And it is widely used because of its strength durability reflectivity and versatility .these properties make it a study and long lasting option for numerous domestic and commercial setting .concrete is a non linear ,n0n elastic and bnttle mateenal. It is strong in compression and very weak in tension .

**Q;1(b)**

**ANS; factors influencing compressive strength of concrete**

**Water cement ratio;the water cement ratio is the ratio of**

the weight of water to the weight of cement used in a

concrete mix. A lower ratio leads to higher strength and durability

but may make mix difficult to work with and form .workability can

be plasticizers or super plasticizers .

storage of cement;procedure protection,duration cement ma

may be an absorbent construction material. It reacts with wetness

either in liquid or in vapor forms quickly.in the presence of

wetness ,cement undergoes a chemical process termed as hydration

construction aggregate;is a broad category of coarse to

medium grained particulate material used in construction,including

sand e gravel crushed slag, recycled concrete and geosynthetic

aggregate.

Slump;quantitively slump is the difference b/w the initial

Heights of concrete as measured during concrete slump test.

Curing**;** curing is the process of maintaining satisfactory

Moisture content and temperature in freshly cast concrete

For a definite period of time immediately following placement

…it prevents or replenishes the loss of moisture from the

Concrete; it maintains a favorable temperature for hydration

To occur for a definite period.

THE END