

1. Selection of structural steel is determined by some factors?
2. Explain the constituent materials and the proportions of concrete?
3. Four compounds are formed during the production of cement?
4. What are the shapes of aggregates?
5. Explain coarse aggregate and fine aggregate?
6. What are the uses of bituminous materials?
7. Engineers uphold and advance the integrity, honor and dignity of the engineering profession by what? Mention them.
8. Ideally, the development of a major road system is an orderly, continuous process. The process follows several step. Mention the steps.
9. What are the beams? Give some examples by mentioning the name and sketching. (7 Marks)
10. Water-treatment works employ a variety of treatment processes; enumerate and explain them.
11. Buildings are classified according to design method and construction method. Give example for both categories. (6 Marks)
12. The total pavement is made up of a number of elements ; explain?
13. Define these terms:

Dead load, live load, culvert, cable supported bridges, suspension bridge, beams, Soil Mechanics, Geotechnical Engineering, binder, bitumen, tar, mastic asphalt, flexible pavement, rigid pavement, aeration, sewage system, dam, gravity dam, embankment dam, hydrology,

14. The effect of wind on a structure depends upon what?
15. The bituminous mixtures contain varying proportions of four materials?
16. Fill in the blanks with the suitable phrase or words:
 - 1) The functions of the civil engineer can be divided into three categories:
 Before construction.....
 During construction.....
 After construction
 - 2) The role of civil engineers are

 - 3) is a field of engineering dealing with the design and analysis of structures that support or resist loads.

- 4) When designing a structure to serve a specified function for public use, the engineer must account for its , ,
While taking into consideration and constraints.
- 5) Members that are generally vertical and resist axial compressive loads are called
- 6) Pre design studies include collection of all required information related to the project such as:,.....,.....,.....,.....
- 7) Buildings are classified according to **design method** such as,
..... And **Construction methods** such as
.....,.....,.....,.....
- 8) The effect of wind on a structure depends up on:
.....,.....,.....,.....
- 9) According to ACI318 Code, if the span ratio (L_2/L_1) $<$ or $=2$, The slab will behave as a
- 10) Many problems can be encountered when constructing on soils, like
.....,.....,.....,.....
- 11) On smaller scale, metals are extensively used for fastenings, such as
.....,.....,.....
- 12) The properties of metals which make them unique among construction materials are.....,.....,.....
- 13) In service steel has to resist
.....,.....,.....,.....
- 14) Typical applications of structural steel are
.....,.....,.....,.....
- 15) Concrete has low and strengths and high strength.
- 16) Concrete structurally used in
.....,.....,.....,.....
- 17) The of hardened cement is its most important property.
- 18) Aggregate porosity affects the and of concrete.
- 19) The wide use of bituminous materials arises from
.....,.....,.....,.....

20)is the portion of pavement allocated to a single line of vehicles.

21) Is the natural or artificial removal of surface and subsurface water from a given area.