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Course Faindation and pavmet

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Q 1

A 1

Pavement distresses

A film of asphalt binder on the pavement surface. It usually creates a shiney glass like reflecting surface

is a condition of pavement structure that reduce serviceability or lead to a reduction in service life.

Causes of pavement Distresses

* Fatigue
* Surface stresses
* Thermal
* Lack of Bearing
* Existing discontinuities

Fatigue

This type of pavemat distresses occure with surface stresses

Thermal

These distresses occure withe concrete flexible and pavement composite.

Lack of bearing support :->

under design, poor drainage, or settlement.

Exiting discontinuities :->

These distresses occure with crack joint, widening.

Q 2

Ans 2 **Sub-grade**

The sub grade preparation is the process through which a surface is prepared on which the sub base is placed

Preparation

↳ All material down to a depth of 30 cm below the sub grade level in earth cut.

↳ In case of bottom of sub grade level is within thirty (30) cm of natural ground.

↳ The material above the subgrade shall be remove

↳ The same shall be removed in total and replaced by the approved material

↳ where the indicated on the drawing or directed by the engineer that the existing road surface is to be used as the subgrade.

↳ The correct elevation on which the base is to be laid.

Sub Base

The work is consist of spreading and compacting subbase constructed on a prepared bed in accordance with specification in conformity with lines

Preparation

- The material shall consist of sand gravel or a sand gravel mixture obtained from the source approved by engineer.

- The subbase material shall have a gradation curve with in the limits for grading A and B.
- The material shall have a CBR value at least 50% determined.

↳ Spreading

Granular Sub Base shall be spread on approved sub grade layer as a uniform mixture.

↳ Segregation shall be avoid.

↳ All subsequent shall be layer's shall be spread and compacted in a similar manner.

↳ The sub Base material shall be compacted by means by approved vibrating rolled or steel wheel roller.

↳ While the rolling process the entire surface of each layer shall be properly shapes and dressed with a motor grader.

↳ preparation of surface for water bound macadam shall be carried out in the same manner manner as for aggregates base course.

↳ To fill void in coarse aggregate.

↳ when the void is filled between the coarse aggregate are filled with screenings. The surface shall be sprinkled with water until it saturation.

Q 3

Ans 3

Laying of Prime Coat

This work shall consist of furnishing all plant labour, equipment material and performing in applying a liquid asphalt prime coat on a previously prepared and untreated earth sub grade OR sub base.

↳ Prime coat shall be applied to be treated is dry.

↳ All loose material shall be removed from the surface by the same shall be approved mechanical

* i) No traffic shall be permitted on the surface after it has been prepared to receive the bituminous material.

ii) primed surface shall be kept undisturbed for least 24 hours

Q4

Ans 4

Types of pavement

Two types

- Flexible pavements
- Rigid pavements

Flexible pavement

Flexible pavement can be defined as the one consisting of a mixture of asphaltic or bituminous material and aggregates placed on a compacted granular.

Rigid pavment :->

A rigid pavemal is constructed from cement concrete or reinforced concrete

Pavement of surface

PCC Portland Cement Concrete

mixture of aggregate cementitious material and water that form a rigid paved surface

Two type of pcc

↳ jointed concrete pave

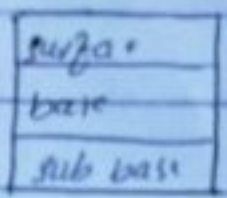
↳ ~~pave~~ pavemant Concrete of continously reinforced

↳ Flexible Surface

↳ Composit surface.

Layer of flexible pavement

- Surface course
- Base course
- Sub base course



Layer of rigid pavement

- Concrete slab
- Base course
- Sub base course
- Sub grade course