Have You Made Full Use of the OCR Feature?

Make a scan,enhance it and save it.Are these all the features you know about CamScanner?If so,you have missed too many cool experiences. CamScanner offers you lots of features rather than scanning.What we are sharing today is the OCR(Optical Character Recognition)feature.

What can you do with OCR feature?

1.Searching

What can you do if you want to search for a document but just can't remember the names of some docs?Use this feature to recognize all the texts on your scans.Next time you just need to enter some key words in the search box and all the documents within the words will be found.

2.Text extraction

Just purchase the one-time paid version and you can enjoy the text extraction for lifetime!Ever want to edit some texts on a paper document or a PDF file?Import it into CamScanner and all texts can be extracted as.txt file after OCR!

Why wait? Follow the steps to start using OCR!

1.Sign in to CamScanner to sync all your docs->All texts will be auto recognized after syncing.

2.If you don't want to sign in,you can open one single page of any doc-> Tap the Recognize button->All recognized texts will be shown in a dialog box->Tap Share to export the texts.

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Section :: A

Semester. 6th

Q.No.1

Answer::

Flexible Payment	Rigid Pavement
1- Grain to grain load transfer	1. Slab action takes place
2. Initial cost is low	2. Initial cost is high
3. Durability is less	3. Durability is high
4. Good subgrade is required	4. Good subgrade is not required
5. Repair work is easy	5. Repair work is tough

Q.No.1

Part b.

Advantage of water bound vs wet Mix Macadam:

The main advantage of wet. mix macadom is that it is composed of a well graded mixture. This ensures good interlock & high stability.

Addition of water while mixing facilities & handling of a the mixture. The operation lying is much simpler than that of water b bound macadam.

Q.No.1

part (c).

Asphalt

1- Asphalt pavements are durable with a layer depth of 25.40 mm & life span of 20+ years.

Bitumen

1- Bitumen pavements are less durable with a lay depth of 10-20 mm lifesp of 5-10 years

- Reduced friction blw tire and road; meaning better fuel economy.

Installation is comparatively costlier

- Asphalt is an impermeable material, thus the pavements don't leach. Therefore they have a lesser chance of infiltrating.

Surface made of asphalt is smoother & more skid-resistant ensuring the driver's safety & minimal noise

2. Higher frictional resistance of a bitumen pavement means less efficiency in energy utilization.

3. Cheap to install

4. Exposure to bitumen leaching may cause deterioration of soil & ground water quality.

5. The loose fragments on bitumen pavements, make the driving experience noiser & can wear down tires consequently causing safety issues.

Q.No.2

Q.No. 2

Given:-

For a design speed of 75 mih

→

Solution:-

Minimum length = 312 × (3-1-4))

= 2184 ft

Station of BVC = (1345+60) - (21+84/2)

= 334 + 68

Station of EVC = (334 + 68) + (21+84)

= 356 + 52

Elevation of BVC = 250 - (0.03 × 21+84/2)

= 217.24 ft

Stations | Distance from BVL (x) (A)

Stations	Distance from BVC (x) (A)	Tangent Elevation (H)	Offset ($y = \frac{Ax^2}{2}$)	
~~BVC 334+68~~				
BVC 334+68	0	217.24	0.01	217.84
BVC 335+00	32	218.6	0.02	218.18
BVC 336+00	132	221.20	0.88	220.92
BVC 337+00	232	224.20	0.86	223.34
BVC 338+00	332	227.20	1.77	225.43
BVC 339+00	432	230.20	2.99	227.21
BVC 340+00	532	233.20	4.54	228.66
BVC 341+00	632	236.20	6.40	229.80
BVC 342+00	732	239.20	8.59	230.61
BVC 343+00	832	242.20	11.09	231.11
BVC 344+00	932	245.20	13.92	231.28
BVC 345+00	1032	248.20	17.07	231.13
BVC 346+00	1132	251.20	20.54	230.66
BVC 347+00	1232	254.20	24.32	229.88
BVC 348+00	1332	257.20	28.43	228.77
BVC 349+00	1432	260.20	32.86	227.34
BVC 350+00	1532	263.20	37.61	225.59
BVC 351+00	1632	266.20	42.68	223.52
BVC 352+00	1732	269.20	48.07	221.13
BVC 353+00	1832	272.20	53.79	218.41
BVC 354+00	1932	275.20	59.82	215.38

BVC 355+00	2032	278.20	66.19	212.03
BVC 356+00	2132	281.20	72.84	208.36
EVC 356+00	2184	282.76	76.44	206.32

Q No. 3

Answer:-

Draw a line joining the reliability level of 99% & the over all standard diviation so of 0.49, & extend line to intersect the first T at point A.

Step #2

Draw a line joining point A to the ESAL of 2×10^6, and extend this line to intersect the first TL line at point B.

Step #3

Draw a line joining point B and resilient modulus (Mr) of base course and extend this line of

intersect the design serviceability loss short at point C.

Step # 4

Draw a horizontal line from point C to intersect the design serviceability.

→ Loss (PSI) curve at point D, so here.

$\Delta PSI = 4.5 - 2.5 = 2$

Step # 5

The structure member require to protect the base course r_4 to find the thickness D_1 of the surface course is 26.

Step # 6

Determine the appropriate structure layer coefficient for each construction material.

Resilient value of asphalt = 450,000 lb/in²

therefore. a_1 0.44

$D_1 = SN_1 / a_1$

$2.6 / 0.44 = 5.9$

Thickness should be taken to the nearest 0.5 inches so the thickness of the surface course is 6".

$SN_1 = D_1 \times a_1$

$= 6 \times 0.44 = 2.64$

Now find SN_2 & D_2 (Base course)

find the value of a_2 from layers coefficient table & m_2 from drainage co-efficient table.

⇒ Thickness of base course (D_2)

$D_2 = (SN_2 - SN_1)\, a_2 m_2$

$D_2 = (3.8 - 2.64)/14 \times 0.80$

$D_2 = 20.36"$

Use 12"

So the thickness of base course is 12"

$SN_2 = 0.14 \times 0.80 \times 12 + SN_1$

$SN_2 = 1.34 + 2.64$

$SN_2 = 3.98$

⇒ Finding SN_3 & D_3 (subbase course) & also layer coefficient a_3 & drainage coefficient no_2 their respective table.

$D_3 (SN_3 - SN_2)/a_3 m_3$

$D_3 (4.4 - 3.98)/0.10 \times 0.80$

$D_3 = 5.24"$

We will use 6" as a sub base

$SN_3 = 2.64 + 1.34 + 6" \times 0.10 \times 0.80$

$SN_3 = 4.46 \approx 4.4$ OK!

FINAL DESIGN

Surface course = 6"

→ Base course = 12"

→ Sub base = 6"

→ Total Pavement thickness = 24"

Q No. 4

Answer..

Pavement Distress..

Distress is a condition of the pavement structure that reduces serviceability or leads to reduction in servile life.

- Distress could occur in a pavement due to;

→ unstable mixes

→ Higher wheel loads than that considered in design.

Alligator (Fatigue) Cracking:

Possible Causes:
-> overloading
-> Inadequate structural design
-> Poor construction

Repair:

Crack sealing is in effective
-> Dig out & replace area of poor subgrade.

Block Cracking:

Problem: Allows moisture infiltration possible causes
-> UV/A shrinkage
-> Asphalt binder aging

Repair:

Low severity crack (< 1/2 inch wide) crack seal to prevent entry of moisture.

Potholes:

Small bowl shaped depressions in the pavement surface that penetrate all the way throu the HMA layers down to the base course.
-> Potholes are most likely to occur on roads with thin HMA surfaces (2 to 2 inches) & seldom occurs

on roads with 4 inches or deeper HMA surfaces.

Problem:

Roughness Serious vehicular damage can be result from driving occurs potholes at higher speeds moisture infiltration.

Possible causes:

Generally potholes are the end result of fatigue cracking. As fatigue cracking becomes severe, the interconnected cracks create small chunks of pavements, which can be dislodged as vehicle drive over them.

Repair.

Patching techniques.

Rutting:

Surface depression in the wheel path are particularly evident after a rain when they are filled with water. Surface depression in the wheel path are particularly.

Bleeding:

Problem: loss of skid resistance wet.

Possible causes:

→ Excessive asphalt binder in HMA.

→ Excessive application of asphalt binder during BST application.

Polished Aggregates:

Possible causes:

Repeated traffic application this can over cover quicker if the aggregate is susceptible to abrasion

Repair:

Apply a skid-resistant slurry seal BST or non-structural over lay.

Ravelling:

loss debris on the pavement which increase pavements roughness & loss of skid resistance.

Possible Causes:

→ Asphalt binder aging.
→ Aggregate segregation.
→ Inadequate compaction during construction.

Repair:

Fog Seal/slurry or Remove the damaged Pavement & overlay.