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150

35%

8 %28
. % 27

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THE EXPERIMENTAL STUDY FOR HEAT TRANSFERRED FROM BUILDING ROOFS AND ROOF FINISHING SYSTEM USAGE .

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Abstract :

The object of this work is study the thermal behavior for building roofs which made from 150 mm concrete and cover with different materials instead of concrete roofing tiles (gray color) at Baghdad city (33.2° N) ,its found that the concrete roofing tiles which painted by white color gave 35 % saving value when compared with that energy consumed ordinary tiles (before painted) while put the plastic tiles over that tiles gaves %28 saving value , and used the concrete roofing tiles which contained 8 mm insulated materials with fiber glass screen gives %27saving value and that tiles is less weight .

Main words: instead of ordinary roofing system , roofs heat transferred reduction , Building energy conservation .

(40 x 800 x 800)

. / 0.24 (K)]

, . / 1.85 (K)] [³ / 1690 (ρ)

[1992 –] [³ / 2240 (ρ)

² / (144)

(1989)

)

% (50-20) (

(2009 –) ()

.

(HASAN- 1984) (100- 70)

(2009-) (Amori &Bagir -2009)

(2009 -) ° (5-1)

(2010 –) 20 ° 5°

()

/ (12)

45

(1)

()

) 20

.(1975

()

()

)

.(Jones – 1987) .(

(1)

()

.

1. / – 33.2)
2. (3 x 4.5 x 4.5)
- 3.
4. () –
5. (40 x 800 x 800)
6. (1992 –)
7. (Rohsenow – Hartnett-1973)
8. $h = 1.52 (\Delta t)^{1/3}$ Δt (h) % 65 ° 26.5)
9. (2007 – Arrora) ° (50) (1)
10. (Intelligent Auto Digital Thermometer by Victor Company)

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-
-
-
-

8

-
-
-
-

(30 x 300 x 300)

(30 x 300 x 300)

) ()

(

)

() ()) (

(10) (9,8,7,6,5,4,3) (2)

()

(1)

:

-1

(2)

1.00 12.30

	2.00	12.30	
	56 , 62 , 60, 65	(	)
57 , 60 , 58			
(3-2)			, 57
	[(1)	] ² /	144
		² /	15
		.	– 120
			-2
(	)		. 5,4
			51,55,50 , 50
		49,53 , 47 , 49	
–	50,54,50,49		52,56,52,52
	(3-2)		
			(2-1)
120			
/	124	(	)
		(	)
	– 94	–	
% 22	% 25		

()

-3

7,6

48,52,46,47

48,53,48,47

53,57,56,52

54,59,58,57

/ 115

. - 87

2

2 / 104

- 78

. % 35

-4

2,9,8

49,52,51,

53,59,56,56

53,57,55,53

51

52,56,51,50

57,60,

59,62,60,59

58,57

(7-4)

. % 26

-5

8 ()

² / 121

56 ,

(3)

° بينما للسطح الداخلي سجلت 52 , 57 , 52 , 47 م° .

(5-3)

88

/ 116

. % 27

—

-6

%34.6

(1)

% 28

8

%27

%21.8

% 24.4

%25

%18.3

.

-7

2030]

[³ / 1350][³ / 2240][³ /

()

[³ / 1750]

.

-8

35%

.

.

-9

- /

(1)

2009

.

- :

-1

.

()

8

-2

% 27

.

-3

° (5-1)

-4

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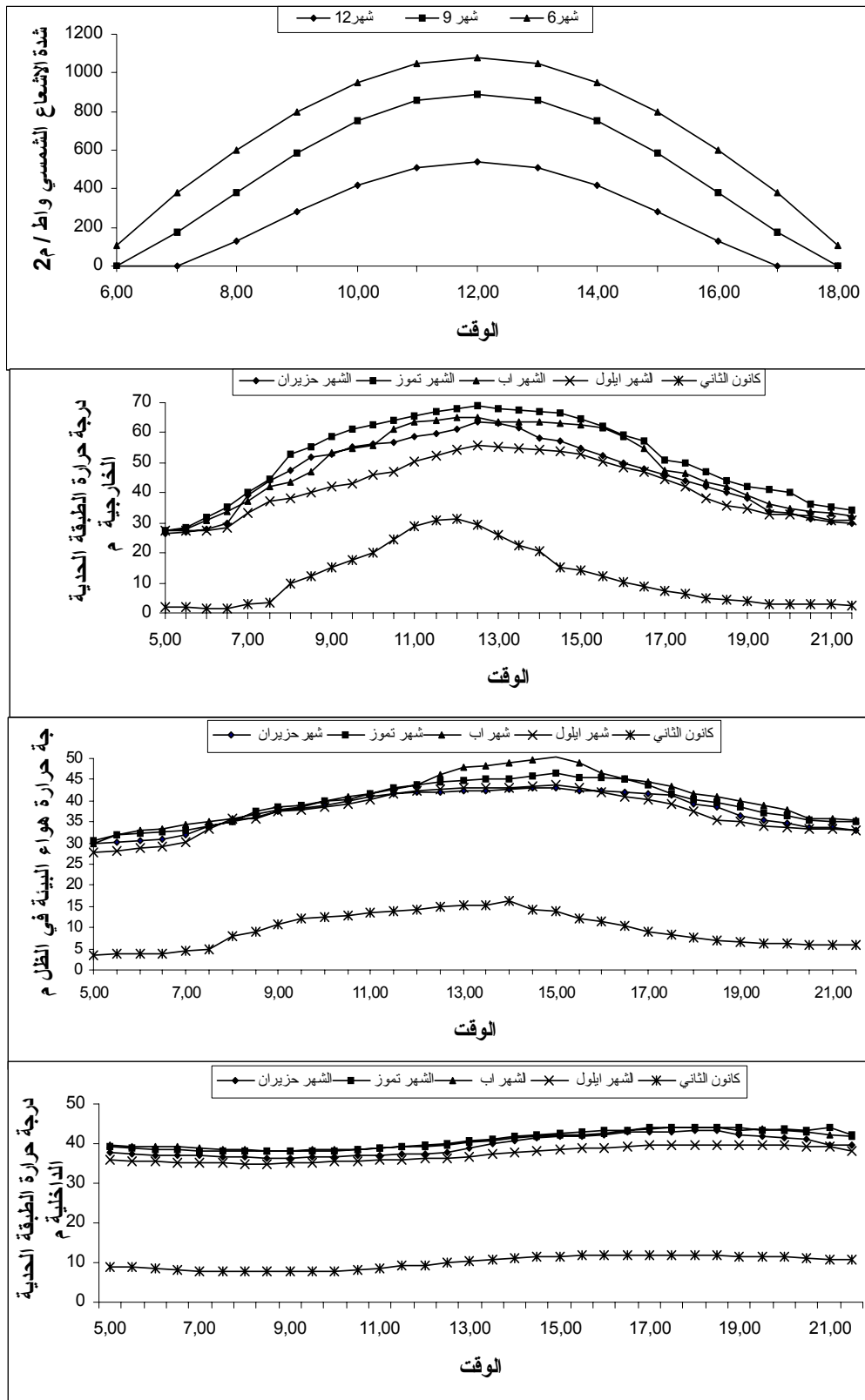
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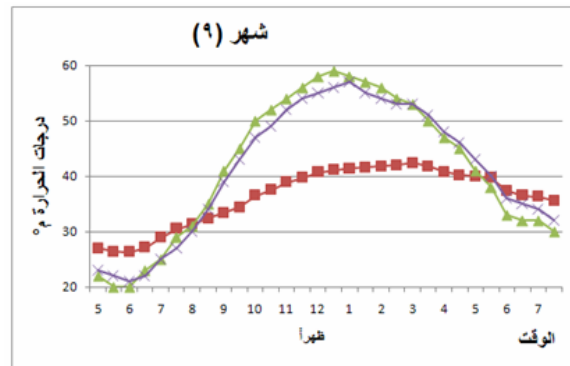
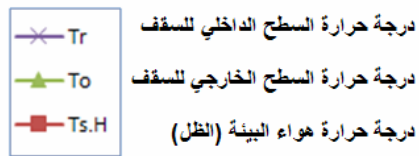
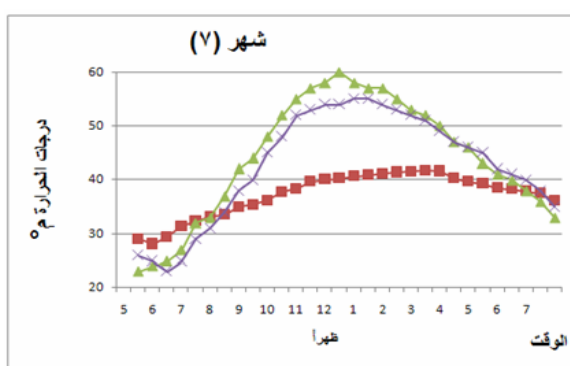
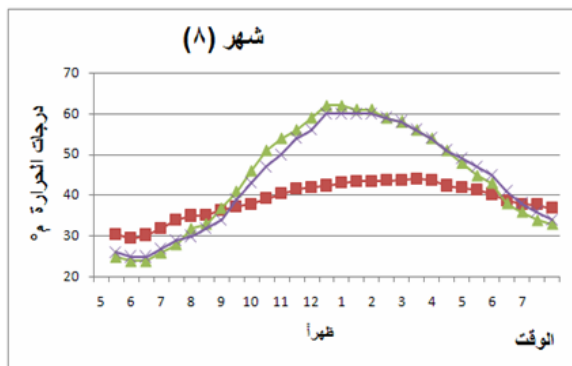
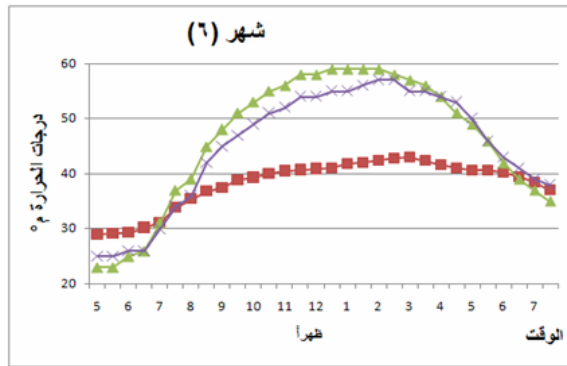
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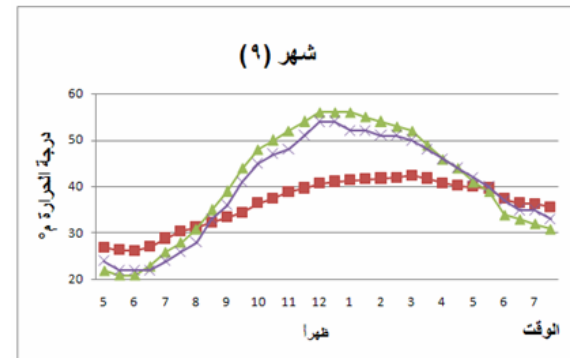
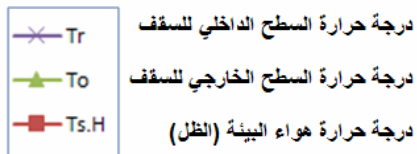
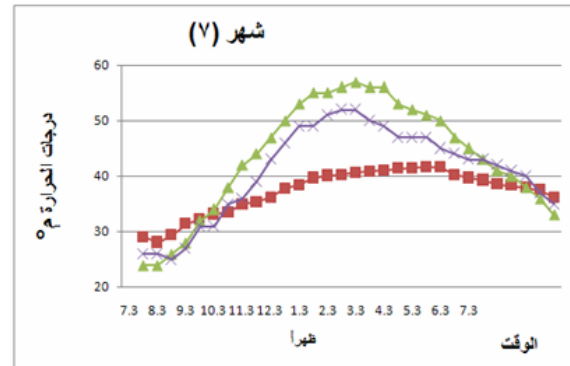
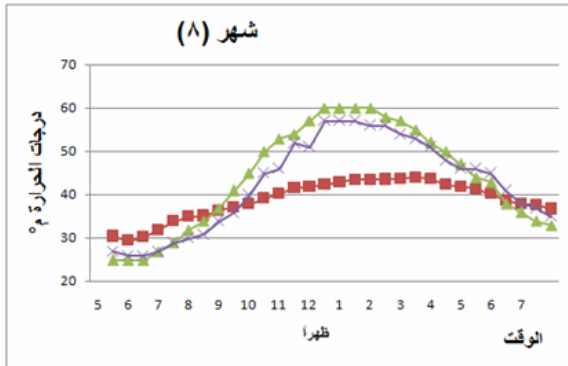
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%	Kw.hr	($\frac{m^3}{hr}$)	ΔT_{r-i} °C	ΔT_{i-o} °C	T_i °C	T_o °C	TSH °C	[$\frac{m}{hr}$]	Kg/m ²	$\frac{m^3}{hr}$ ()	
	120	159	18.6	1.4	45	46.4	37	0.21	144	10000	
-27	87.6	116.1	14.6	2.6	41	43.6		0.21	121	11000	
-24.4	90.8	120.3	15	3.07	41.48	44.47		0.52	140	12000	
-21.8	93.9	124.4	15.4	3.1	41.9	45		0.52	142	11500	
-34.6	78.5	104	13.4	4.3	39.8	44.1		0.65	144	10800	
-27.7	86.8	115.04	14.5	3.5	41	44.5		0.5	146	10650	
-25	90	119.2	14.9	3.3	41.4	44.7		0.43	94		
-18.3	98.1	130	15.9	2.6	42.3	44.9		0.46	105		()



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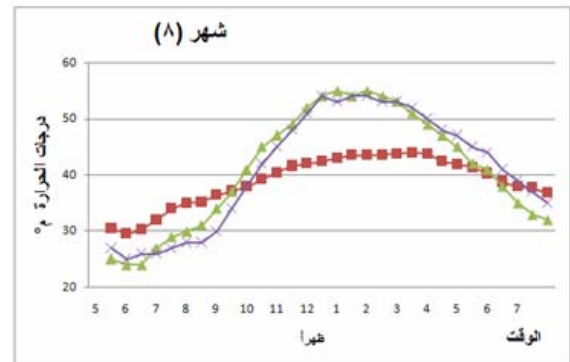
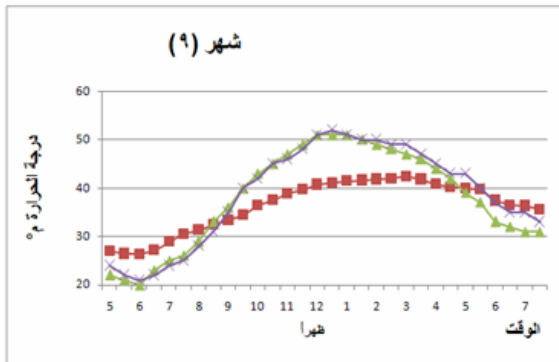
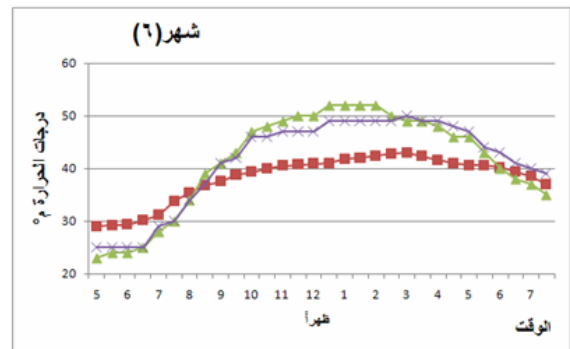
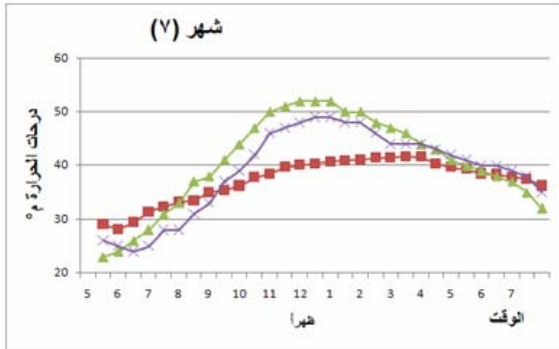
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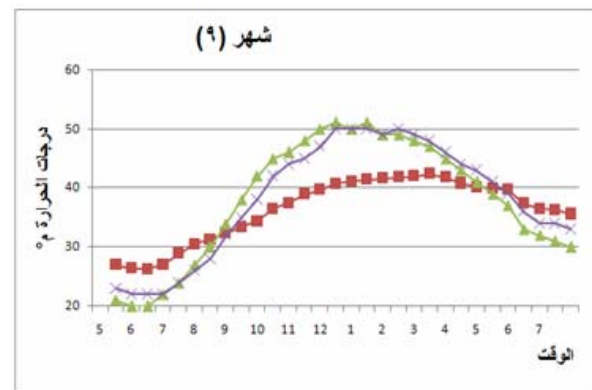
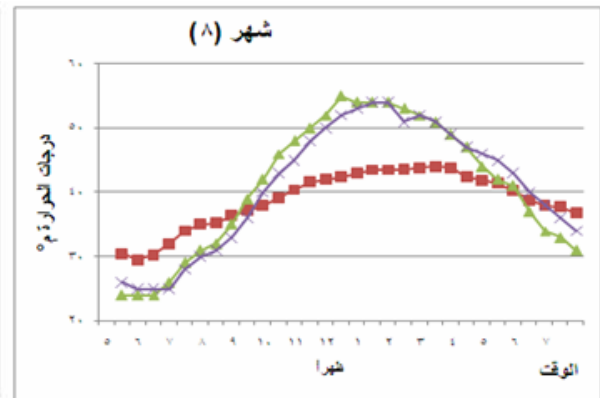
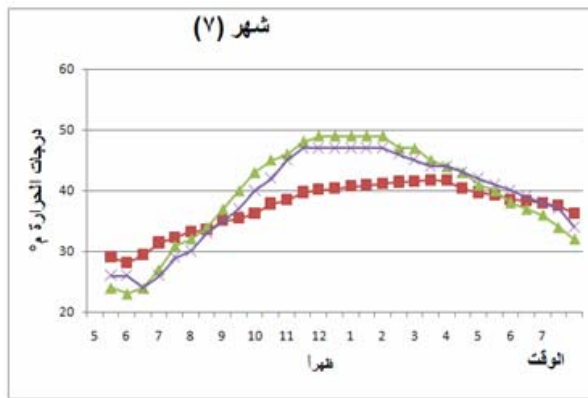


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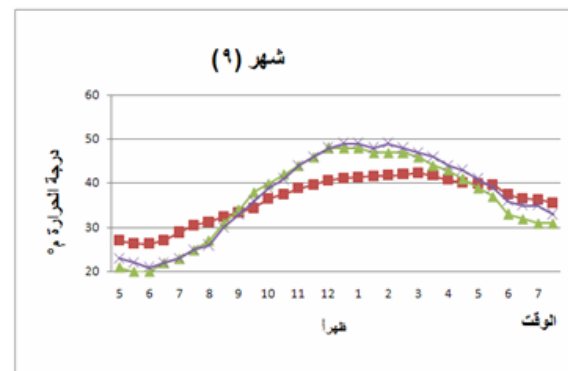
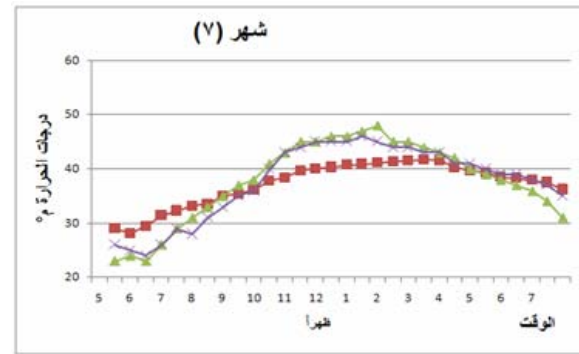
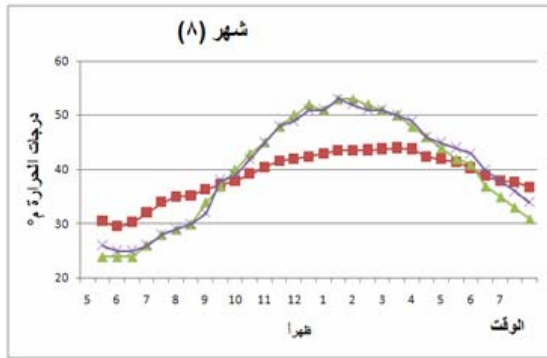
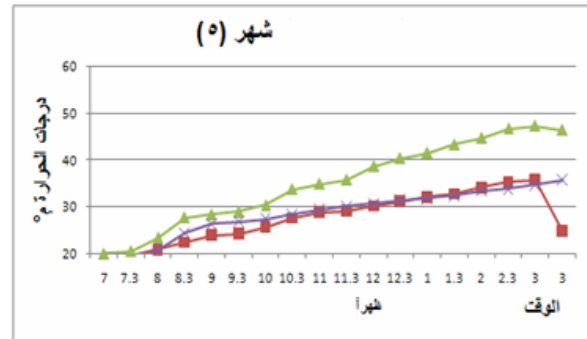
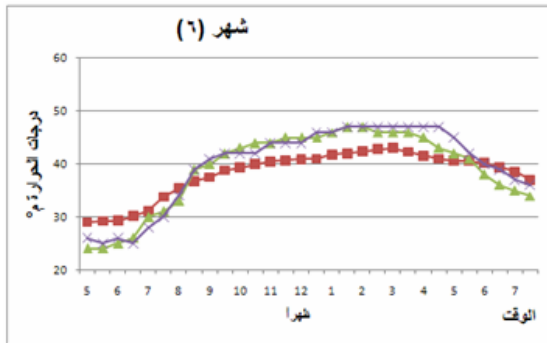
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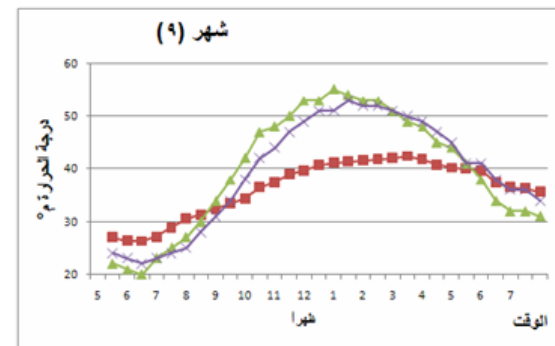
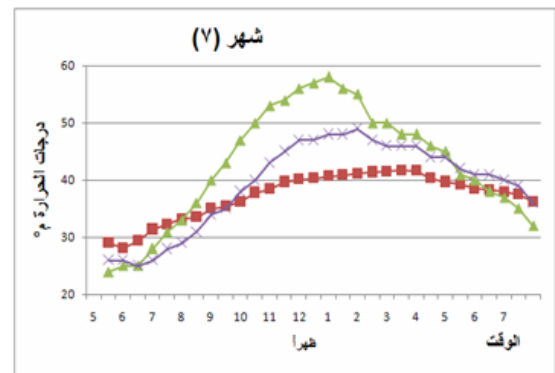
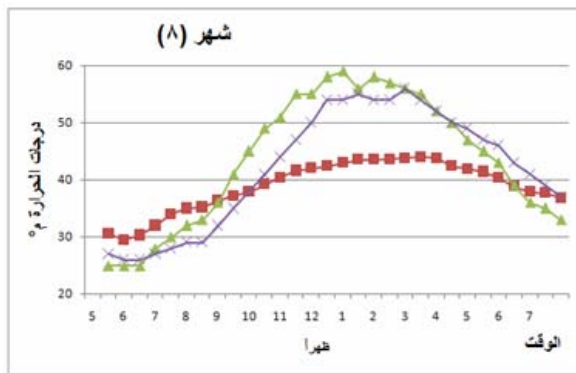
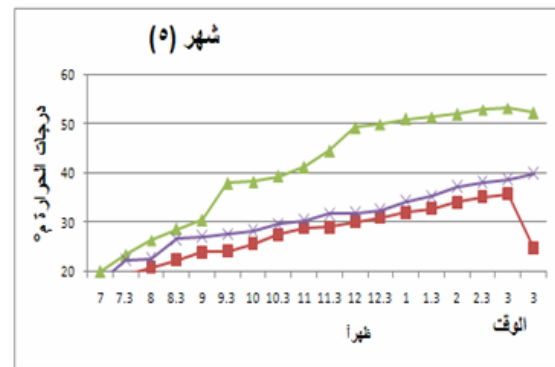
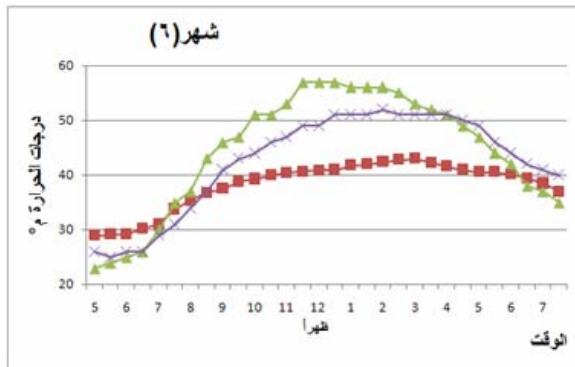


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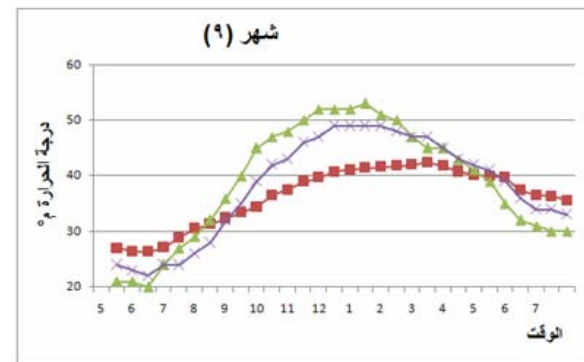
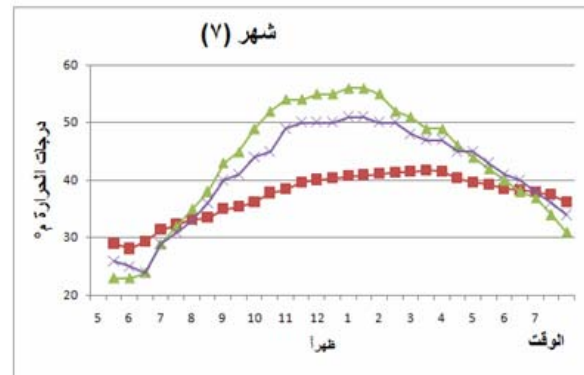
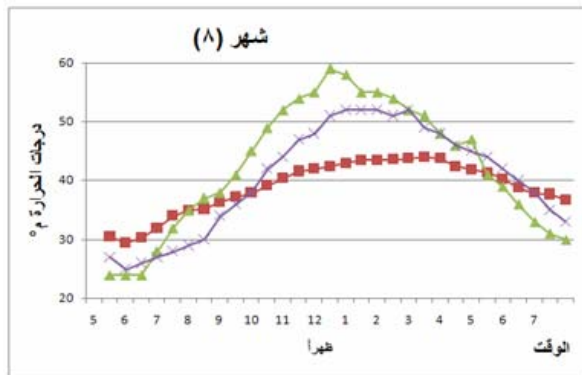
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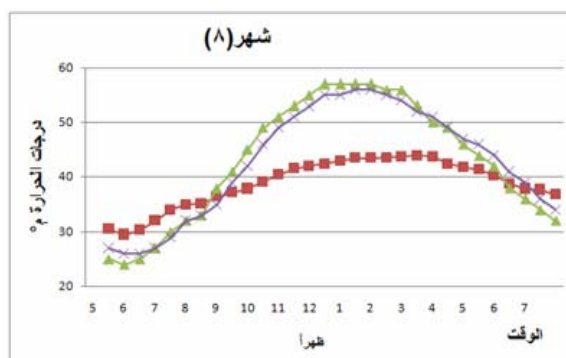
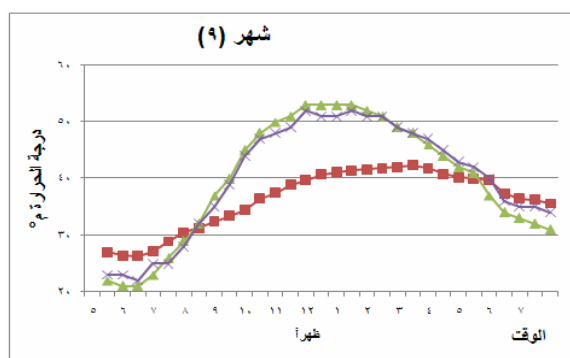
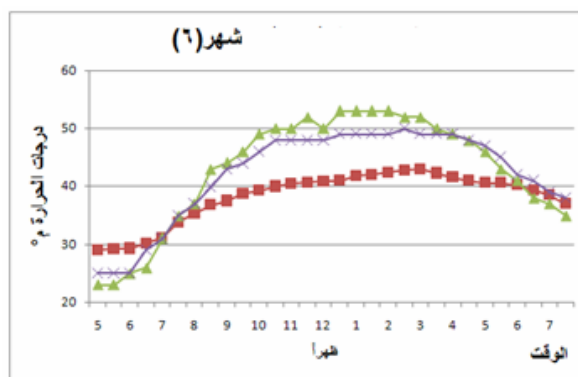
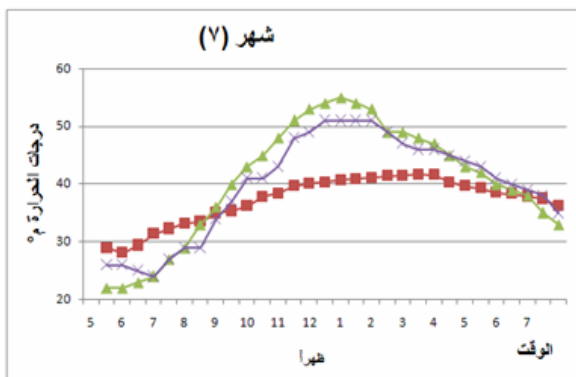


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- البلاطة المصنوعة
- البلاطة البيضاء جزئياً
- البلاطة البيضاء كلياً
- البلاطة العازلة
- البلاطة الاعتيادية

