

الفصل الثاني
إعداد نموذج شبكة الأعمال
(Developing a Network Model)

(Steps in Building a Network Model)

.(Contract Documents Study)

(Construction Method Statement)

.(Site Layout Planning)

(Planning CPM)

(Work Breakdown Structure (WBS))

.(WBS)

.(WBS)

.(WBS)

.(WBS)

.(Activity Definition)

.(Activities Type)

.(Activities List)

.(Activities order)

.(Activities Relations)

(Project Activities Constraints)

- - - -

(Constraints Comments)

- - - -

(Drawing a Network Diagram)

- - -

.(Arrow Diagram)

- - - -

.(Precedence Diagram)

- - - -

(Arrow Diagram vs. Precedence Diagrams)

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: -

(Planning and Scheduling Engineer)

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((Steps in Building A Network Model

:

.(Contract Documents Study) -

.(Construction Method)	-
.(Site Layout Planning)	-
: (Planning)	-
.(Activities List)	-
	-
.(Dependency List)	-
	-
: (Scheduling)	-
.(Activity Duration)	-
.(Critical Path Calculation)	-
	-
.(Activity & Project Duration)	-
.(Resource Scheduling)	-
	-
.(Resource Allocation)	-
" "	-
.(Resource Leveling)	-
" - - "	-
.(Project Plan Adjustment)	-
	-
.(Time Reduction when Needed)	-
.(Contract Budget)	-
.(Cash Flow Plan)	-

.(Schedule Control)

-

: (Contract Documents Study)

- -

(Construction Method Statement)

- -

(Construction Method)

:(Site Layout Planning)

- -

:(CPM Planning (:

:

.(Name,Type, Code, ID, Duration)

.(Activity Relationships)

(Work Package)

(Breakdown)

.(Activities)

Work Breakdown Structure (WBS)

Work Breakdown Structure (WBS)

Objectives

WBS

WBS
Organization Breakdown Structure "OBS"
Responsibility Assignment Matrix "RAM"

: WBS

-

-

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-

)

(

: (WBS)

.(tangible result)

-

.(hierarchical structure)

-

.(project deliverable)

-

project scope of

-

work

: (WBS)

- - - - -

:(WBS)

- - - - -

١- استخدام نماذج هيكل تجزئة الأعمال من مشاريع مماثلة:

٢- أسلوب التحليل لإنشاء هيكل تجزئة الأعمال:

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(Term of

(Project Statement)
Reference)

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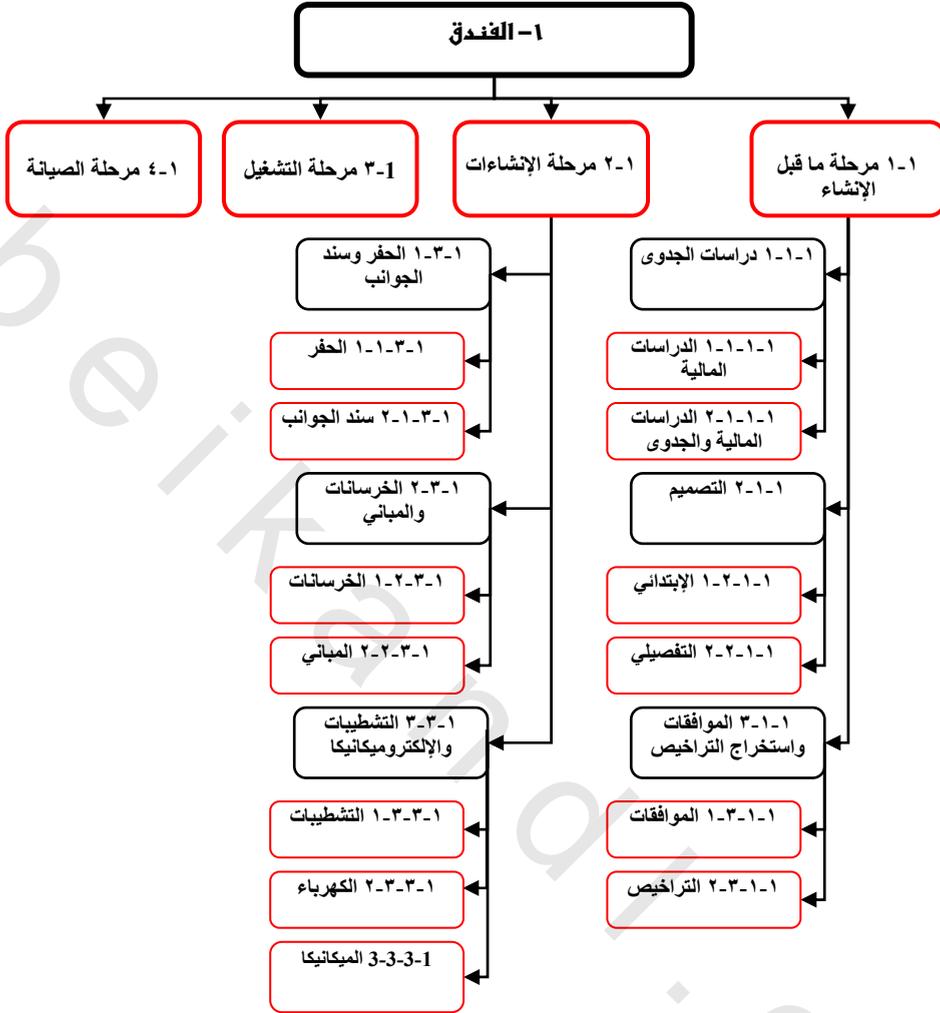
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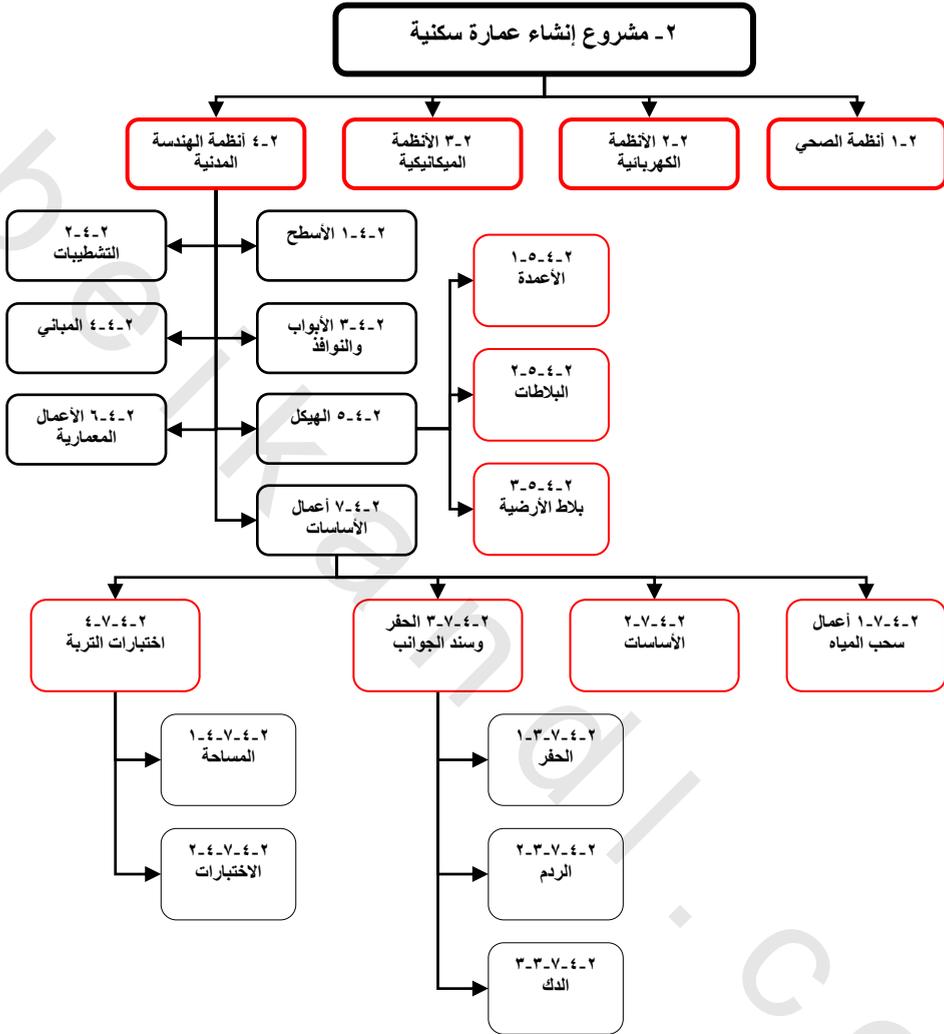
مثال رقم ١ :



شكل (٣-٤)

هيكل تجزئة الأعمال WBS لمشروع إنشاء فندق

مثال رقم ٣ :



شكل (2-2)

هيكل تجزئة الأعمال WBS لمشروع إنشاء عمارة سكنية

:(Activity Definition)

- - - -

:(Activities Type)

- - - -

:(Construction Activities) ١- أنشطة التشييد

)

(

:(Procurement Activities) ٢- أنشطة التوريد

(Long Lead Items)

٣- الأنشطة الإدارية والهندسية:

(Management /Engineering Activities)

:

١- هدف شبكة الأعمال (Objective of the Model):

٣- المستخدمين (Users):

٣- مناسبة المدد الزمنية مع مدة المشروع وفترة التحديث :

Frequency of Use

٤- المخرجات (Products):

% : % : %

(Update).

٥- حجم النشاط ومستوى تفصيل الأنشطة: (Activities Level of Details)

(Super Network)

(Sub Network)

(Preliminary Schedule)

٦- مسؤولية تنفيذ الأعمال: (Execution Work Responsibilities)

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(...

:(Activities List)

(Activity Identification)

:Order (Activities)

:

(Dependency List)

(lead Time)

(Lag Time)

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:(Activities Relations)

:(Finish to Start "F.S") (-)



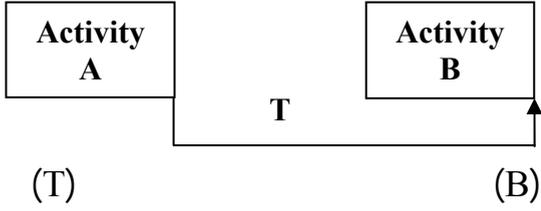
(A)

(B)

-

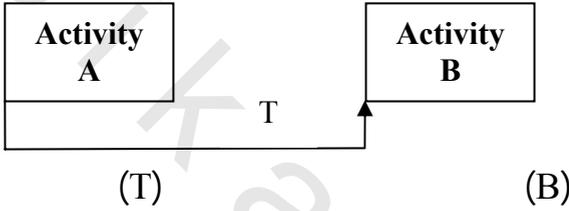
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:(Finish to Finish "F.F") (-)



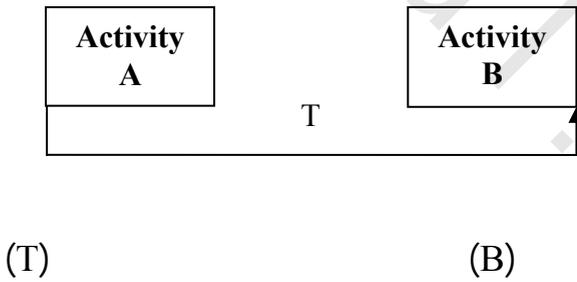
.(A)

:(Start to Start "S.S") (-)



.(A)

:(Start to Finish "S.F") (-)



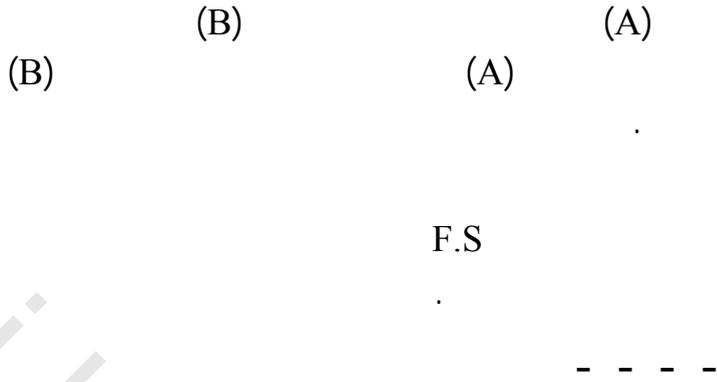
.(A)

(T)

.(T)

(A)

(B)



(Project Activities Constrains)

١- القيود الطبيعية (Physical Constraints):

" "

.(Construction Methods Statement)

٢- قيود الموارد (Resource Constraints):

٣- قيود السلامة (Safety Constraints):

)

(

٤- قيود مالية (Financial Constraints):

٥- قيود بيئية (Environmental Constraints):

٦- قيود إدارية (Management Constraints):

٧- قيود تعاقدية (Contractual Constraints):

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(Constrains Comments)

(Shifting)

(Drawing a Network Diagram)

.(Precedence Diagrams)

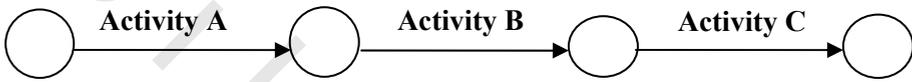
(Arrow Diagrams)

:(Arrow Diagram)

Node

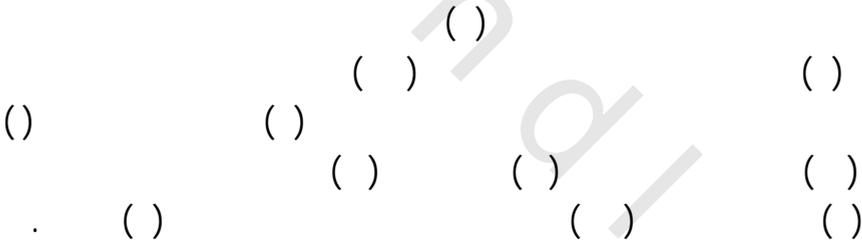
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(Events)

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شكل (٣-٢)

منطط الأسمم

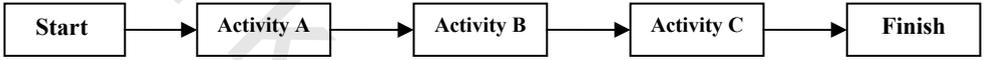


:(Precedence Diagram)

(Milestones)

(Events)

(-)



شكل (٣-٤)
مخطط التتابع

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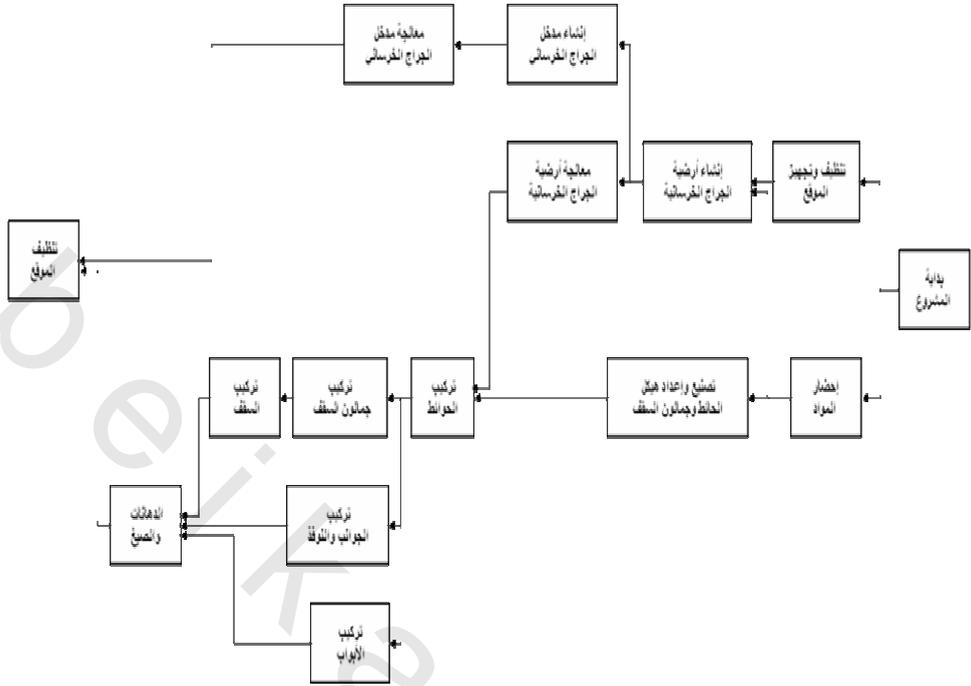
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جدول (٣-١)

قائمة الأنشطة لمشروع إنشاء جراج



شكل (٣-٥)

مخطط تسلسل الأنشطة لمشروع الجراج

(-)

(Arrow Diagram vs. Precedence Diagram)

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" CPM " . . .

."CPM diagrams" . . .

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