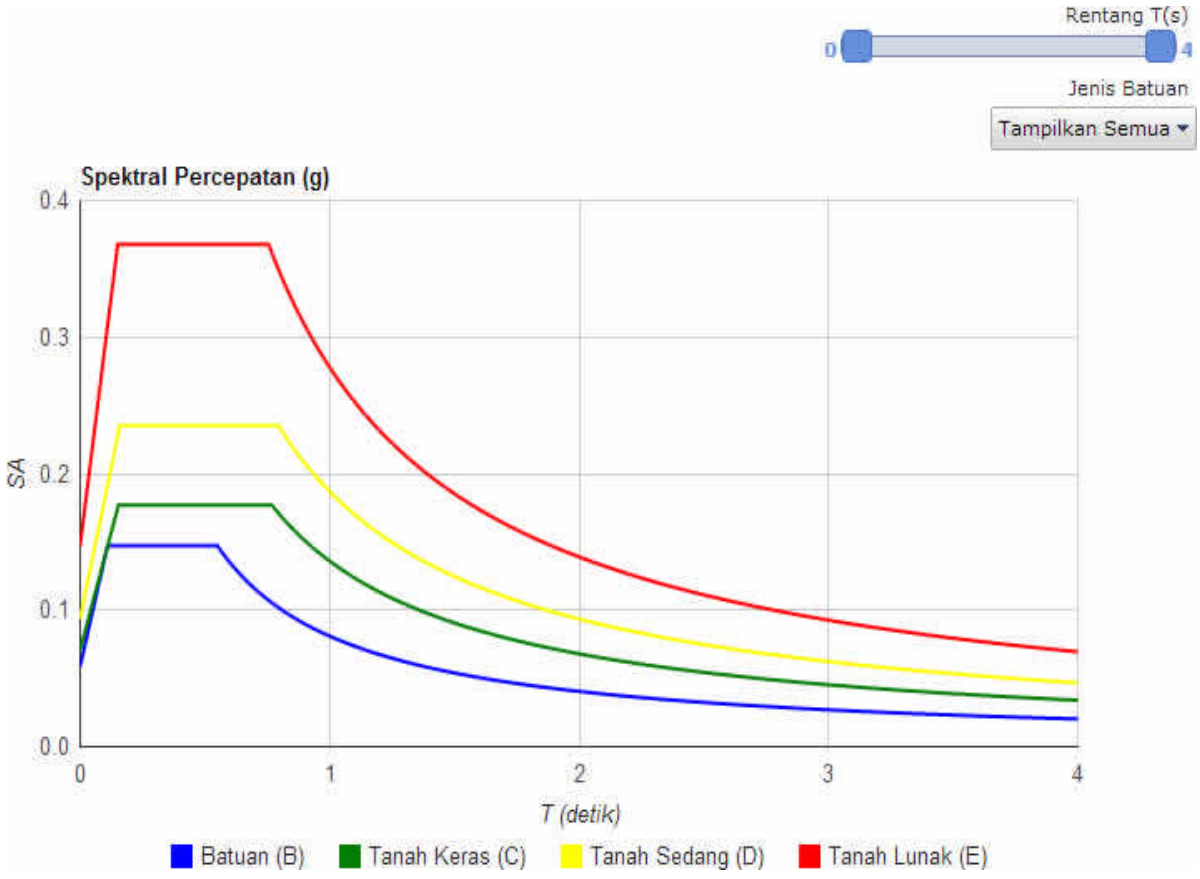
SOAL 6 UJIAN TENGAH SEMESTER
Reponse Spectrum in Seismic Analysis
JAWABAN KIRIM EMAIL – DALAM BENTUK ZIP
SOAL 1, 2, 3, 4, 5 DAN 6 BOBOT NILAI MASING2 SOAL 15%

- DEFINE MODEL 3DIMENSI DENGAN PLAT 12 CM (KGf, M, C)
- GEDUNG (**4+NO.ABSEN**) LANTAI, ARAH X- 5 BAYS, ARAH Y=3 BAYS
- ***KETENTUAN LAIN TENTUKAN SENDIRI***
- ***DEFINE BEBAN ... SIDL – DINDING, HIDUP LANTAI, GEMPA***
- Define > function > response spectrum.
- Add new function, name = Respons. ,
- GUNAKAN GRAFIK GEMPA kota Tambun, Bekasi



- Define > analysis cases.
- Add new function, new = Res-x , karena gaya gempa arah-X
- Analysis case = Response spectrum.
- Acceleration U1 / local koordinat – (global X) Scale =I/R= 2.31

- Select Res-x

- Add copy
- Name Res-y
- Acceleration U2 scale =2.31
- Kerjakan terus sampai selesai – enter dan ok
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Time History Analysis SAP2000

- Define >
  - function > time history
  - Function type = function from file
  - Name = TimeHistorY
  - Browse dan pilih elcentro.
  - Valuespilih = time and function value,
  - Display

- Define > Analysis Case
  - New case name = TH-x
  - Analysis case = time history
  - Load type = Accel, load name = U
  - Function = TimeHistorY, scale = 32.2
  - Select lines, model, transient.

- Select TH-x

- Add copy name Th-y
  - Load name = U2
  - Teruskan close sampai selesai

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Define:

- Define > Material,
  - Concrete, modify.
  - Fy = fys = 60ksi,
  - f'c = 4ksi
- Define > frame section.
  - Add rectangular, name B15 * 12. Reinforcement,
  - Beam clear cover top = bottom = 2.5"
  - Name = slab

- Define > Area sections,
  - Asec 1 modify,
  - thickness bending = membrane = 6".

- Define > load cases, add live load.

- Define > add default combo check concrete,
  - Convert to user check boxes.

- Draw > quick draw area, draw the area.

- Draw > quick draw frame draw beam, B15 x 12

- Select edge paints at both ends

Assign

- Assign > joint restrained, hinge support.

- Select beams

- Assign > frame > insertion point, select slab

- Select slab

- Assign > area load

    - Uniformly Distributed Load
- Analyze > set analysis uses,
    - Select Slab

- Analyze > run analysis model,
    - Do No run
    - Run now

- Unit K-is

Display:

- Display > deformed shape,
    - Select UDCON2
    - Drag the mouse over the slab & find max deflation

- Display > show forces stresses
    - Area UDCON2
    - Design steel,
    - Bottom face,
    - Area/ Select max value

- Display > show forces stresses
    - Area Ast 2
    - Select max value

- Display > show forces stresses
    - Area too face
    - Select max value

- Display > show forces stresses
    - Area Ast 1

- Display > concrete frame design
    - Select design combo
    - Select UDCON1, UDCON2

Design:

- Design > concrete frame design
    - Start design/checks

- Design > Concrete frame design

    - Verify all members passed

- All members should pass otherwise increase beam size to pass
- Design > concrete frame design > display design/np Select longitudinal reinforcement
- For beam, for both upper and lower face, select max value & for column select max value and calculate No. of bars