Q :) The shape of the bending moment diagram over the length of a beam, carrying a uniformly increasing load is always [ISRO 2020]

A : Linear

B : Parabolic

C : Cubic

D : Circular

Q :) Every material obeys Hook's law within its [ISRO 2020]

A : Dimensional limit

B : Plastic point

C : Limit of proportionality

D : Failure limit

Q :) The effective length of beam between the supports for compression flange restrained fully against lateral bending is _____ if actual length of beam is 6m. [UPPCL JE 2020]

A : 4.8 m

B : 4.2 m

C : 4.6 m

D : 4.4 m

Q :) The stress condition at the state of impending failure of the section is analyzed and the non linear stress – strain curves of concrete and steel are made use of, this method is known as: [UPPCL JE 2020]

A : Stress method

B : Limit state method

C : Ultimate load method

D : Working stress method

Q :) The shear force and bending moment are zero at the free end of a cantilever beam, if it carries a: [MPSC AE 2019]

A : Point load at the free end.

B : Point load at the middle of its length.

C : Uniformly distributed load over the whole length.

D : None of the above.

Q :) A steel rod of c/s area 100 mm^2 and 1 m long is subjected to a tensile force of 40 kN. What is the total elongation of the rod? If modulus of elasticity of steel is 200 GPa. [MPSC AE 2019]

A : 0.5 mm

B : 0.7 mm

C : 1.2 mm

D : 2.0 mm

Q :) The well yield per unit drawdown is known as [MPSC JE 2019]

A : Specific capacity of a well

B : Efficiency of a well

C : Retention of a well

D : Well loss

Q :) What is the Poisson's ratio for structural steel as recommended is IS 800? [CIL 2016-17]

A : 0.2

B : 0.25

C : 0.3

D : 0.15

Q :) The reciprocal theorem of Maxwell is valid for structures:

[CIL 2016-17]

A : that are plastic

B : that are elastic

C : having linear force-displacement relation

D : irrespective of their type

Q :) What will be the sinking fund factor of a construction equipment which has a useful life of 5 year after which it is to be a replaced by a new one. If the rate of interest is 4% [KPWDAE 2019]

A : 0.043

B : 0.224

C : 0.184

D : 0.312

Q :) For a particular job, four different firms have submitted the time estimates and they are

Firm	Optimistic time (t_e)	Most likely time (t_t)	Pessimistic Time (t_t)
A	5	10	13
B	6	9	12
C	5	10	14
D	4	10	13

Which one of these firms is more certain about completing the job in time?
[KPWDAE 2019]

A : C

B : A

C : D

D : B

Q :) In railway track modulus is defined as [KPWDAE 2019]

A : Load/unit length of rail to produce depression in sleeper
B : Load/unit length of sleeper
C : Load/unit length of rail to produce unit depression/deflection in track
D : Load/unit length of sleeper to produce depression in rail

Q :) The peak runoff for a catchment area of 62000 km^2 with a runoff coefficient of 0.43 and storm intensity of 0.44. cm/hr using rational formula is [KPWDAE 2019]

A : 21400.83 cumec

B : 83456.71 cumec

C : 16600.64 cumec

D : 32707.87 cumec

Q :) The stress at which extension of a material takes place more quickly as compared to the increase in load is called [TNPSC 2017]
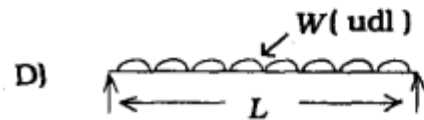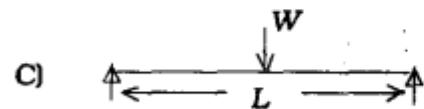
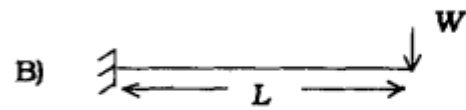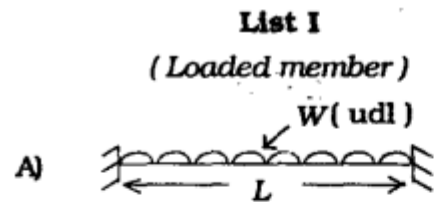A : Elastic point
B : Yielding point
C : breaking point
D : Point

Q :) Choose the correct match in the list: [TNPSC 2017]

List I
(Loaded member)

List II
(Maximum deflection)

A)
$W(udl)$
L

1) $\dfrac{5}{384} \dfrac{WL^3}{EI}$

B)
W
L

2) $\dfrac{WL^3}{3\,EI}$

C)
W
L

3) $\dfrac{WL^3}{8\,EI}$

D)
$W(udl)$
L

4) $\dfrac{WL^3}{48\,EI}$

Q :) The energy stored in a body when strained within elastic limit is known as [TNPSC 2017]

A : Resilience

B : Proof resilience

C : impact emery

D : Strain energy

Q :) Failure of a ductile material is best explained by [TNPSC 2017]

A : Principal stress criterion
B : Principal strain criterion
C : Distortion energy criterion
D : Strain energy criterion

Q :) Which of the following methods of structural analysis is a force method? [TNPSC 2017]

A : Slope deflection method
B : Moment distribution method
C : Columba analog method
D : All of these

Q :) Consider the following statements: [TNPSC 2017]

2. For short columns, the failure is due to instability
3. For short columns, the failure is due to yielding and instability
4. For short columns, the failure is due to neither yielding nor
OF the statements

A : Alone is correct

B : 1 and 2 are correct

C : 1,2, and 3 are correct

D : 1 and 4 are correct