Commercial ACS Maneuvers (Cessna 172S)

Prior to airwork:

STEEP TURNS

Altitude > 3000 AGL
Pick heading reference
Entry Speed - 2100 RPM, 95 kts
Bank 50°, slight pitch up
Add power to maintain speed
Rudder - keep ball in center
Roll out on original heading
Repeat, opposite direction
Altitude +/- 100,
Speed +/- 10, Bank +/- 5°,
Heading +/- 10 on rollout

SLOW FLIGHT

Altitude > 3000 AGL
Power - **1500 RPM, Carb Ht**
Hold Altitude, Add power < Vy
Slow to stall horn, then +5 knot
Power as needed to hold altitud
Altitude +/-50, Heading +/-10,
Speed +5/0, Bank +/-5°

POWER OFF STALL

Altitude > 3000 AGL
Power - **1500 RPM**
Slow to 65 Kts, holding altitude
Descend power-off at 65 kts
Pitch up slowly for full-stall
Acknowledge stall horn
Continue pitch up for stall break
Recover: pitch down, full power.
...Flaps 20, then up, Climb Vy
Heading +/-10, Bank max 20° +/-5°

POWER ON STALL

Altitude > 3000 AGL
Power - **1500 RPM**
Slow to Vx (63 kts), holding altitu
Add >65% power
Pitch up gradually for full-stall
Acknowledge stall horn
Continue pitch up until stall brea
Recover: pitch down
Climb Vy full-power, carb heat off
Heading +/-10°, Bank max 20° +/-1

Clearing turns (2 x 90 degrees)

ACCELERATED STALL

Altitude > 3000 AGL on recovery
Power/Speed: 2000 RPM, 85 KIAS
Turn w/ 45° bank
Increase back pressure until stall ho
Recover at stall horn!
climb Vx or Vy to original altitude

8's on PYLON

Pick 2 "pylons", 1/2 mile apart
Pylons should be perpendic. to win
Entry Speed - 2200 RPM, 100 kts
Enter 45° downwind, ~900'
Pivotal Alt.(670' at 87, 1100' at 113
If pylon gets AHEAD of ref line, desc
If plyon gets BEHIND ref line, climb!
Fly S&L 3-5 seconds between pylon
Max bank 40°
Keep reference line on pylon

STEEP SPIRAL

Pick reference point (low and close)
Determine wind direction
Altitude - for 3 turns (4000')
Power - Idle
Speed - 70 kts +/- 10
Bank - steepest < 60°
Bank - steepest downwind of point
Speed +/-10, Bank max 60°, >1500'

CHANDELLE

Pick Reference on wingtip
Entry Speed - 2100 RPM, 95 kts
Bank 30°, Power - FULL
Pitch - slowly increase to max
After 90°, Hold pitch, reduce bank
After 180°, speed just above stall
Hold altitude, accelerate to cruise
Rollout +/-10°, Speed near stall

LAZY EIGHT

Pick Reference on wingtip
Entry Speed - 2100 RPM, 95 kts
Gentle Pitch and Bank changes!
At 45°: Max pitch up, 15° bank
At 90°: Zero pitch, 30° bank
At 135°: Max pitch down, 15°. bank
At 180°: pitch and bank level
Repeat other direction
Speed at 90°, about 60 kts
After 180°, +-100 feet, +- 10 kts

ID emergency landing field

SHORT FIELD TAKE OFF

Use full runway length, flaps 10
Hold brakes, add full power
Check Gauges, release brakes
Climb @ 56 to agreed obstacle ht.
Accelerate to Vy, flaps UP
Speed +5/-5

SHORT FIELD LANDING

ID touchdown target
Approach 61 kts (+ gust factor)
Aimimg point 100-200 feet short
Touchdown at or beyond target
Lower nose, brake, retract flaps
Speed +5/-5
Land at or beyond, but within 100 ft.

SOFT FIELD TAKE OFF

taxi without stop, 10 flaps
Slowly add full power
Keep tail low, balance on mains
After liftoff, pitch down
Accelerate Vx or Vy in gnd effect
Climb at Vx or Vy, retract flaps
Speed +5/-5

SOFT FIELD LANDING

Approach 65 kts(+ gust factor)
Smooth roundout & flare
Add power if necessary for soft ldg
Hold nose high, minimal brakes
Speed +5/-5

POWER-OFF 180 APPROACH

ID touchdown target
Power - IDLE, downwind abeam
Speed - best glide or as required
Short final - 61 kts (+ gust factor)
Aimimg point 100-200 feet short
Touchdown at or beyond target
Land at or beyond, but within 200 ft.

GO AROUND

Full power, Flaps 20
Pitch up for Vy
Offset to side of runway (if traffic)
Retract Flaps > 60 kts
Radio - report going around
Speed Vy +5/-5