قائمة الاسئلة

امتحان نهاية الفصل الدراسي الأول - للعام الجامعي 1446 هـ - كلية البترول والموارد الطبيعية :: هندسة مكامن (1) - (341 PNGE)- المستو

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1) The viscosity of crude oil measured at a pressure above bubble point and system temperature condition is known as:
   1) - kinematic viscosity
   2) - effective viscosity
   3) + under saturated viscosity
   4) - saturated viscosity
2) Which of the following flow regimes represents constant pressure outer boundary?
   1) - Unsteady state flow regime
   2) + Steady state flow regime
   3) - Pseduo sate flow regime
   4) - Ttansient flow regime
3) A constant reservoir pressure drop with respect to time is related to:
   1) - Transient flow regime
   2) - Steady state flow regime
   3) - Unsteady state flow regime
   4) + None of above
4) During the semi steady-state flow the reservoir pressure declines at a higher rate with:
   1) - Decrease in the fluids production rate
   2) - Larger pore volume
   3) - Higher compressibility coefficient
   4) + None of above
5) Positive skin factor means…
   1) - the permeability around the well (Kskin) is higher than that of the formation (K)
   2) + the permeability around the well (Kskin) is less than that of the formation (K)
   3) - the pemeability around the well is the same as that of the formation
   4) - No answer
6) The rate of the reservoir pressure disturbance that move away from the wellbore is determined by the following except:-
   1) + reservoir temperature
   2) - reservoir fluid viscosity
   3) - formation and fluid comperssibility
   4) - reservoir permeability
7) The pressure disturbance radius increasing away from the wellbore is commonly called:
   1) - well pore radius rw
   2) - external radius re
   3) + investigation radius rinv
   4) - none of above
8) The change in pressure with time becomes the same throughout the drainage area during:
   1) + Pseduo sate flow regime
   2) - Unsteady state flow regime
   3) - Steady state flow regime
   4) - Transient flow regime
9) the type of reservoir drive that has a constant oil/gas ratio most of the producing time increasing near the end of production is called:
   1) + gas cap drive
   2) - solution gas drive

3) - water drive
4) - depletion drive

10) Lower salinity formation waters tend to contain:
1) + more disolved gas
2) - less disolved gas
3) - large amount of disolved gas
4) - no answer

11) the reservoir depletion drive include:
1) - gas cap drive
2) - solution gas drive
3) + all above
4) - no answer

12) If the STOIIP is 2500 MM stb, and the recovery factor is 0.40, and if 250 MM stb were produced, then the reserves are:
1) - 250 MM stb
2) + 750 MM stb
3) - 1000 MM stb
4) - 2500 MM stb

13) Before production, it was estimated that there is a 90% chance to produce at least 150MM stb, 50% chance to produce 550 MM stb and 10% to produce 900 MM stb, what is the probable reserves?
1) + 400 MM stb
2) - 450 MM stb
3) - 550 MM stb
4) - 750 MM stb

14) Before production, it was estimated that there is a 90% chance to produce at least 150MM stb, 50% chance to produce 550 MM stb and 10% to produce 900 MM stb, what is the possible reserves?
1) - 250 MM stb
2) + 350 MM stb
3) - 450 MM stb
4) - 550 MM stb

15) What type of reservoir drive maintains a constant reservoir pressure most of the production life?
1) - gas cap drive
2) - solution gas drive
3) + water drive
4) - depletion drive

16) From the following primary drive mechanism of oil reservoirs, which one could have the lowest recovery factor?
1) - water drive
2) - gas cap drive
3) + solution gas drive
4) - no answer

17) The estimated petroleum quantity anticipated to be commercially recoverable with a high level of confidence (at least with 90% confidence) is called:
1) - proved developed
2) - proved undeveloped
3) + both a and b
4) - unproved

18) the ratio of the effective permeability of any phase/fluid (in presence of more than one fluid) to the absolute permeability of that fluid at 100% saturation is called:

1) - the effective prmeability
2) + the reltive permeability
3) - the absolute permeability
4) - no answer

19) A well with a limited perforated interval could result in
1) - Hemi - Spherical flow
2) + Spherical flow in the vicinity of the perforations
3) - Radial flow
4) - Linear flow

20) The zone of altered permeability around the well pore (skin zone) can be due to:
1) - mud filtrate invasion
2) - formation stimulation (acidizing or fracturing)
3) - slury or clay particles invasion
4) + all above

21) The capillary force (pressure) is affected by:
1) - interfacial tensions of the rock and fluids
2) - wetting characteristics of the system
3) - pore size and geometry
4) + all above

22) In gas cap drive mechanism ,reservoir pressure characterize by:
1) - rapid and continuous decline
2) + slow and continuous falls
3) - remaining high
4) - no answer

23) The transport equation is basically:
1) - A material balance equation
2) + Darcy's equation
3) - A volumetric equation
4) - Compressibility Equation

24) The recovery of oil by any of the natural drive mechanisms is called:
1) + Primary recovery
2) - Secondary recovery
3) - Tertiary recovery
4) - No answer

25) Which reservoir drive mechanism has the highest recovery factor?
1) - gas cap drive
2) - weak water drive
3) + strong water drive
4) - depletion drive

26) The effectiveness of water drive depends on:
1) - the ability of the aquifer to replace the volume of the produced oil
2) - the relative size of the aquifer to the oil reservoir
3) - the permeability of the aquifer
4) + all above

27) The uncertainty in reserves estimation depends chiefly on the following except:
1) - the amount of available reliable geological data
2) - the amount of available engineering data
3) + the production techniques
4) - the economic condition

28) The instantaneous GOR, as expressed in scf/STB, is defined as
   1) + the total gas flow rate divided by the oil flow rate
   2) - free gas flow rate divided by the oil flow rate
   3) - solution gas flow rate divided by the oil flow rate
   4) - no answer

29) The effect of the boundary on the pressure behavior of a well would be the same as the effect from
   1) - an image well located a distance "r" from the actual well.
   2) + an image well located a distance "2r" from the actual well.
   3) - an image well located a distance "πr" from the actual well.
   4) - an image well located a distance "2πr" from the actual well.

30) In the unsteady-state flow case, it is assumed that
   1) + a well is located in a very large reservoir and producing at a constant flow rate
   2) - a well is located in a very large reservoir and producing at a constant pressure
   3) - a well is located in a very large reservoir and producing at a constant flow rate and constant pressure
   4) - no answer

31) What is the energy called that produces the oil and gas?
   1) - reservoir aquifer
   2) + reservoir drive
   3) - water drive
   4) - drainage drive

32) The maximum water saturation at which the water phase will remain immobile is known as:
   1) - connate water saturation
   2) - irreducible water saturation
   3) - critical water saturation
   4) + all above

33) Once the reservoir is producing under the semisteady-state condition, the following is true, except
   1) - each well will drain from within its own no-flow boundary independently of the other wells.
   2) - the pressure decline rate dp/dt must be approximately constant throughout the entire reservoir.
   3) - the average reservoir pressure is changing at the same rate.
   4) + the flow rate will be constant.

34) The rate of the reservoir pressure disturbance that move away from the wellbore is determined by the following except:
   1) - Rock and fluid compressibilities
   2) + Reservoir external radius
   3) - Fluid viscosity
   4) - Permeability

35) To convert STOIIP to reserves, we need to
   1) + multiply the STOIIP by the recovery factor
   2) - divide the STOIIP on the recovery factor
   3) - multiply the STOIIP by the Bo
   4) - divide the STOIIP on the Bo

36) This increase in the fluid flow velocity might cause the development of a turbulent flow around the wellbore.
   1) + true.
   2) - false.

37) If turbulent flow does exist, it is most likely to occur with gases and causes an additional pressure drop similar to that caused by the skin effect.
   1) + true.

2) - false.

38) Solution gas-oil ratio, Rs, decreases above bubble point pressure, p>pb.
1) - true.
2) + false.

39) The recovery factor, RF, indicates the proportion of the in-place hydrocarbons expected to be recovered.
1) + true.
2) - false.

40) In unsteady state flow, the flow parameters change with respect to position and time.
1) + true.
2) - false.

41) The shape of a reservoir has an effect on its flow behavior.
1) + true.
2) - false.

42) Initial Oil reserves are the amount of technically and economically recoverable oil.
1) + true.
2) - false.

43) Natural gas is always the wetting phase in the presence of other liquids
1) - true.
2) + false.

44) Solution gas drive only occurs once the bubble point pressure has been reached
1) + true.
2) - false.

45) Permeability is affected by the same factors affecting porosity
1) + true.
2) - false.

46) Permeability has no control on the directional movement and the flow rate of the reservoir fluids in the formation.
1) - true.
2) + false.

47) Fluids-Rocks interaction influence fluid flow through the reservoir.
1) + true.
2) - false.

48) Any calculation involving the movement of fluids requires a value of viscosity.
1) + true.
2) - false.

49) A heavy oil contains more dissolved gas than a light oil.
1) - true.
2) + false.

50) According to the superposition concept, the total pressure drop at any point in the reservoir is the sum of the pressure changes at that point caused by flow in each of the wells in the reservoir.
1) + true.
2) - false.